

PRELIMINARY REPORT

EASTERN AREA CRUISE 14

14 June - 2 August 1967

Prepared by

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PRELIMINARY REPORT
EASTROPAC CRUISE NO. 30
JUNE - JULY, 1967

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During the period 14 June through 02 August, 1967, pelagic sea-bird observations were conducted aboard the R/V David Starr Jordan in the Eastern Pacific Ocean. This was in co-operation with EASTROPAC, an oceanographic investigation of the Eastern Tropical Pacific Ocean by the United States, Mexico, Ecuador, Peru, and Chile. These investigations have been discussed in detail in previous reports and will not be repeated here (See Woodward, Miscellaneous Pelagic Cruise No. 8, and Bulmer, Miscellaneous Pelagic Cruise No. 9).

Diurnal observations (sunrise to sunset) were conducted only while the ship was underway, although spot checks were frequently made while the ship was stationary or during nocturnal hours. Specimen collecting and photography were conducted where possible. A total of 3,072 miles and 299.3 hours of observations were completed in 46 days. In high density coastal areas accurate counts were impossible and only species identification and generalized population estimates were attempted. TABLE 1 presents a brief summary of these observations.

Density values are in birds per square mile (BSM) and were derived from previously established visual distances of different species groups. Frequency values are given in terms of sightings (one or more birds acting as a unit) per hour. Since the oceanographic data has not yet been completely analyzed, all correlations with the bird data are to be considered preliminary and subject to future revision.

The coverage area extended from San Diego, California, south to 03 degrees South, and from 119 degrees to 97 degrees West (See FIGURE 1). In this area over 28,000 birds of at least 46 species were recorded. Many different oceanographic and/or climatic conditions exist within this large area. Because of the preliminary nature of the oceanographic data, and with a concession to easy handling of data, I have divided the whole area into four rather heterogeneous parts; COASTAL, within 150 miles, or one days observation period, from the coast; NORTHERN PELAGIC, all areas over 150 miles from land north of 12 degrees North; COUNTERCURRENT, between 04 and 12 degrees North; SOUTHERN PELAGIC, between 03 degrees South and 04 degrees North.

COASTAL: 339 miles and 31.9 hours of observations were completed in this area. Thirty species were recorded with greatest numbers of both species and individuals occurring along the coast of southern Baja California from Vizcaino Bay south to Cape San Lucas. Northern Phalaropes far outnumbered any other species although Manx Shearwaters were abundant and of much more regular occurrence. TABLE 2 shows the distribution of all species observed within this area.

TABLE 1

SUMMARY OF SEA-BIRD OBSERVATIONS OF EASTROPAC 30

| Date | 1200 Lat. | 1200 Lon. | Water* Temp. | Miles | Hours | Density | Frequency | Number of Species | Most Abundant Species |
|---------|----------------------------|--------------|-----------------|-------|-------|---------|-----------|----------------------|-------------------------|
| 15 June | 29.8 N | 117.8 W | 16.7 | 115 | 10.1 | 2.09 | 17.3 | 9 | Leach Petrel |
| 16 " | 25.2 N | 118.2 W | 18.0 | 116 | 10.2 | 0.32 | 3.6 | 6 | " " |
| 17 " | 21.0 N | 118.4 W | 21.0 | 71 | 8.0 | 0.04 | 0.4 | 2 | " " |
| 18 " | 18.3 N | 118.3 W | 24.7 | 93 | 8.5 | 0.04 | 0.5 | 2 | " " |
| 19 " | 15.2 N | 118.5 W | 26.0 | 89 | 8.8 | 0.10 | 1.1 | 5 | " " |
| 20 " | 12.2 N | 118.6 W | 27.4 | 80 | 7.5 | 0.44 | 4.5 | 7 | " " |
| 21 " | 09.6 N | 119.1 W | 27.7 | 68 | 6.5 | 0.24 | 4.6 | 5 | Wedge-tailed Shearwater |
| 22 " | 07.0 N | 118.6 W | 27.5 | 89 | 8.1 | 1.72 | 10.7 | 7 | " " " |
| 23 " | 04.3 N | 118.4 W | 27.4 | 66 | 7.1 | 3.97 | 8.3 | 6 | " " " |
| 24 " | 01.9 N | 118.6 W | 26.0 | 70 | 7.2 | 0.02 | 0.3 | 2 | Leach/Harcourt Petrel |
| 25 " | 00.5 S | 118.4 W | 24.9 | 57 | 6.8 | 0.13 | 1.8 | 4 | Juan Fernandez Petrel |
| 26 " | 03.0 S | 118.7 W | 25.7 | 48 | 5.3 | 0.16 | 2.8 | 3 | " " " |
| 27 " | 03.0 S | 115.2 W | 25.3 | 73 | 7.6 | 0.38 | 5.4 | 6 | Collared Petrel |
| 28 " | 02.9 S | 111.9 W | 25.1 | 59 | 6.4 | 0.33 | 3.8 | 3 | " " |
| 29 " | 00.6 S | 111.5 W | 24.1 | 65 | 6.2 | 0.41 | 2.7 | 5 | Leach/Harcourt Petrel |
| 30 " | 02.1 N | 111.5 W | 24.5 | 80 | 6.9 | 0.15 | 1.7 | 3 | " " " |
| 01 July | 04.9 N | 111.7 W | 26.7 | 90 | 6.6 | 3.30 | 5.5 | 9 | Wedge-tailed Shearwater |
| 02 " | 07.9 N | 111.3 W | 27.7 | 80 | 7.0 | 0.57 | 7.0 | 9 | Juan Fernandez Petrel |
| 03 " | 10.6 N | 111.4 W | 28.3 | 74 | 7.1 | 1.18 | 9.3 | 8 | Leach Petrel |
| 04 " | 13.3 N | 110.5 W | 28.2 | 84 | 7.2 | 0.61 | 3.2 | 3 | Juan Fernandez Petrel |
| 05 " | 14.9 N | 108.7 W | 28.7 | 73 | 7.2 | 0.15 | 3.1 | 3 | " " " |
| 06 " | 16.8 N | 106.6 W | 28.7 | 74 | 6.8 | 0.15 | 3.4 | 7 | Wedge-tailed Shearwater |
| 07 " | 18.6 N | 104.8 W | 28.4 | 49 | 4.5 | 10.37 | 13.3 | 6 | Brown Booby |
| 08 " | Manzanillo, Colima, Mexico | | | | | | | | |
| 09 " | " | " | " | " | " | " | " | " | " |

* = Surface water temperature in degrees centigrade

TABLE 1 (cont'd)

SUMMARY OF SEA-BIRD OBSERVATIONS OF EASTROPAC 30

| Date | 1200 Lat. | 1200 Lon. | Water* Temp. | Miles | Hours | Density | Frequency | Number of Species | Most Abundant Species |
|---------|--------------|--------------|-----------------|-------|-------|---------|-----------|----------------------|-----------------------------|
| 10 July | 17.3 N | 101.5 W | ? | 40 | 3.7 | 4.90 | 8.4 | 6 | Manx Shearwater |
| 11 " | 15.3 N | 101.4 W | 28.8 | 63 | 7.3 | 3.95 | 11.9 | 12 | Juan Fernandez Petrel |
| 12 " | 13.1 N | 103.3 W | 28.2 | 74 | 7.4 | 0.91 | 10.3 | 11 | " " " |
| 13 " | 10.6 N | 104.6 W | 28.4 | 81 | 7.5 | 3.29 | 14.9 | 5 | " " " |
| 14 " | 07.6 N | 104.6 W | 28.3 | 73 | 7.8 | 0.73 | 9.2 | 6 | " " " |
| 15 " | 04.8 N | 104.5 W | 27.4 | 62 | 6.5 | 0.47 | 3.2 | 5 | " " " |
| 16 " | 02.3 N | 104.7 W | 25.9 | 71 | 8.2 | 0.02 | 0.2 | 2 | White-throated Storm Petrel |
| 17 " | 00.5 S | 104.7 W | 21.7 | 73 | 7.6 | 0.08 | 0.8 | 2 | Leach/Harcourt Storm Petrel |
| 18 " | 03.4 S | 104.5 W | 22.7 | 69 | 6.7 | 0.49 | 4.0 | 3 | White-throated Storm Petrel |
| 19 " | 03.0 S | 101.2 W | 23.1 | 79 | 7.0 | 0.30 | 3.6 | 4 | Leach/Harcourt Storm Petrel |
| 20 " | 02.9 S | 097.8 W | 21.7 | 44 | 5.0 | 0.58 | 4.0 | 4 | Leach/Harcourt Storm Petrel |
| 21 " | 00.8 S | 097.5 W | 20.7 | 75 | 7.3 | 0.68 | 3.4 | 2 | Leach/Harcourt Storm Petrel |
| 22 " | 02.2 N | 097.6 W | 23.8 | 76 | 7.3 | 0.81 | 7.5 | 6 | Leach/Harcourt Storm Petrel |
| 23 " | 05.1 N | 097.5 W | 26.6 | 79 | 7.8 | 0.61 | 2.7 | 5 | Socorro Petrel |
| 24 " | 07.8 N | 097.4 W | 27.3 | 55 | 5.5 | 1.33 | 18.2 | 13 | Juan Fernandez Petrel |
| 25 " | 10.2 N | 097.6 W | 28.3 | 82 | 8.2 | 2.61 | 16.3 | 11 | " " " |
| 26 " | 13.2 N | 097.5 W | 28.8 | 78 | 7.3 | 0.32 | 3.6 | 9 | Manx Shearwater |
| 27 " | 16.0 N | 098.2 W | 29.9 | 23 | 2.8 | 0.45 | 3.2 | 6 | Blue-faced Booby |
| 28 " | 17.7 N | 102.2 W | 30.0 | 0 | 0.0 | - | - | - | - |
| 29 " | 20.0 N | 105.8 W | 29.3 | 44 | 4.1 | 3.47 | 14.9 | 9 | Brown Booby |
| 30 " | 22.5 N | 109.3 W | 26.4 | 32 | 3.1 | 157.38 | - | 7 | Northern Phalarope |
| 31 " | 25.0 N | 112.6 W | 22.2 | 15 | 1.5 | - | - | 15 | " " |
| 01 Aug. | 28.2 N | 115.1 W | 19.9 | 21 | 2.1 | - | - | 10 | Pink-footed Shearwater |
| 02 " | 31.8 N | 116.9 W | - | - | - | - | - | - | - |

* = Surface water temperature in degrees centigrade

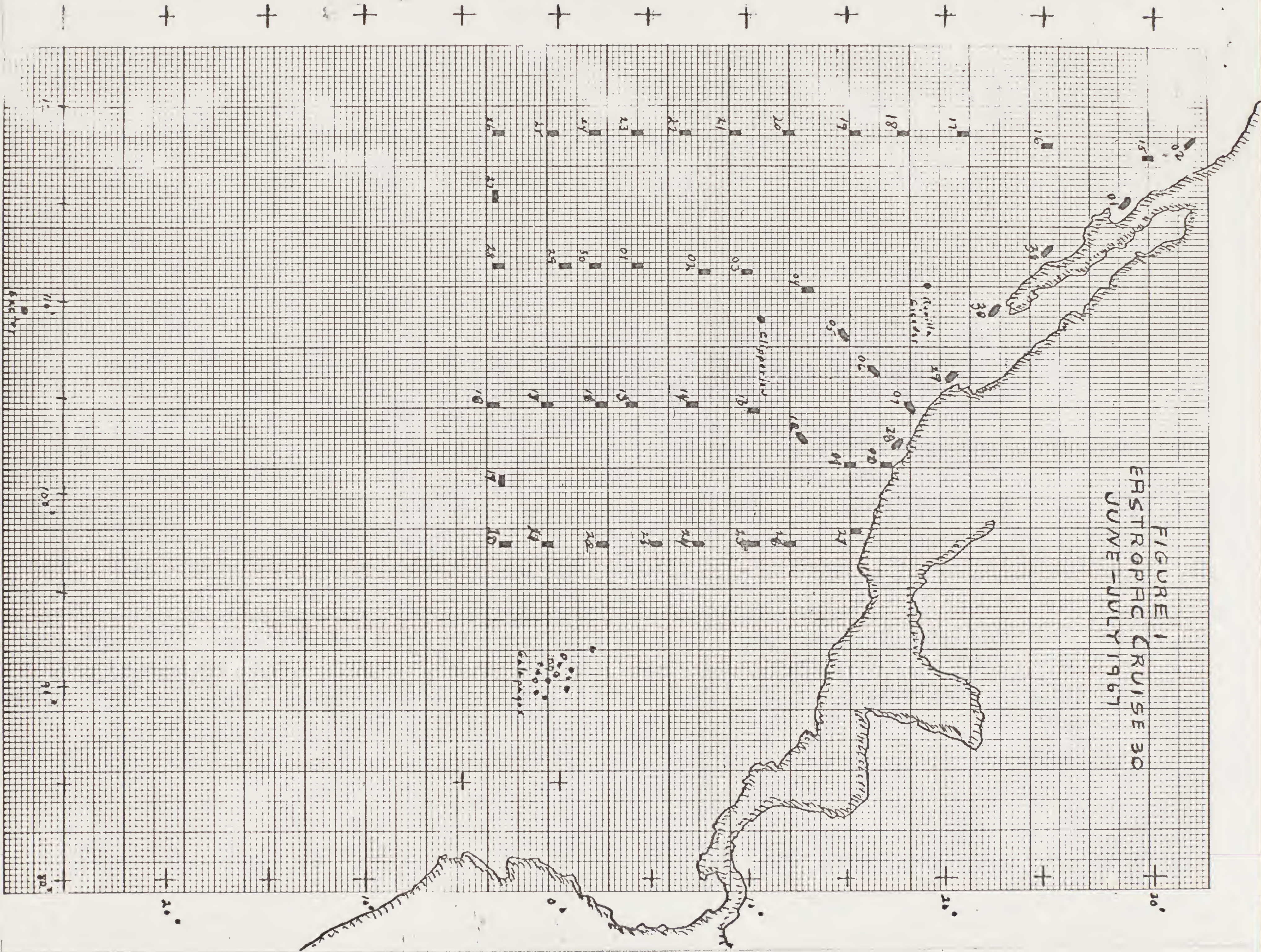


FIGURE 1
EASTROPAC CRUISE 30
JUNE-JULY 1967

TABLE 2

DISTRIBUTION AND ABUNDANCE OF BIRDS WITHIN COASTAL WATERS

| Species | Latitude: | | | | | | | | Total |
|-------------------------|-----------|--------|--------|--------|--------|--------|--------|--------|--------|
| | 29.8 N | 28.2 N | 25.0 N | 22.5 N | 20.0 N | 18.6 N | 17.3 N | 16.0 N | |
| Black-footed Albatross | 5* | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Socorro Petrel | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 |
| Least Petrel | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| Forster Tern | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| Red-billed Tropicbird | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Xantus Murrelet | 5 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 9 |
| Sabine Gull | 10 | 0 | 0 | 0 | 0 | 0 | 22 | 0 | 32 |
| Leach Petrel | 156 | 0 | 205 | 12 | 2 | 0 | 50 | 1 | 376 |
| Manx Shearwater | 6 | 88 | 215 | 1 | 74 | 103 | 92 | 2 | 581 |
| ? Cormorant | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 18 |
| Western Gull | 0 | 7 | 5 | 0 | 0 | 0 | 0 | 0 | 12 |
| Heerman Gull | 0 | 1 | 25 | 0 | 0 | 0 | 0 | 0 | 26 |
| Ashy Petrel | 0 | 25 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| Sooty Shearwater | 0 | 55 | 0 | 0 | 0 | 1 | 0 | 0 | 56 |
| Brown Pelican | 0 | 10 | 20 | 0 | 0 | + | 0 | 0 | 30+ |
| Northern Phalarope | 0 | 68 | 10,000 | 5,000 | 25 | 0 | 0 | 0 | 15,093 |
| Pink-footed Shearwater | 0 | 160 | 100 | 0 | 0 | 0 | 0 | 2? | 262 |
| Pale-footed Shearwater | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Cook Petrel | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 100 |
| Red Phalarope | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 10 |
| Royal Tern | 0 | 0 | 45 | 0 | 0 | 0 | 0 | 0 | 45 |
| Cassin Auklet | 0 | 0 | 25 | 3 | 0 | 0 | 0 | 0 | 28 |
| Black Petrel | 0 | 0 | 11 | 2 | 23 | 0 | 0 | 0 | 36 |
| Magnificent Frigatebird | 0 | 0 | 4 | 0 | 1 | + | 1 | 1 | 7+ |
| Pomarine Jaeger | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| Brown Booby | 0 | 0 | 0 | 0 | 118 | 610+ | 33 | 0 | 761+ |
| Blue-faced Booby | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 10 | 12 |
| Blue-footed Booby | 0 | 0 | 0 | 0 | 0 | 2? | 0 | 0 | 2? |
| Laughing Gull | 0 | 0 | 0 | 0 | 0 | + | 0 | 0 | + |
| Sooty Tern | 0 | 0 | 0 | 0 | 0 | 301 | 3 | 0 | 304 |

* = number of birds observed or estimated

+ = present in Manzanillo Harbor

NORTHERN PELAGIC: 895 miles and 86.2 hours of observations were completed in this area. Twenty-one species were recorded, of which Juan Fernandez petrels were the most abundant. Average density was 0.56 BSM, but most of these birds were found within the warmer waters in the southeastern part. Only Black-winged Petrel, Soccorro Petrel, and Red-tailed Tropicbird were more common in the western part (111°-119°W). TABLE 3 shows the species present and their comparative abundance.

TABLE 3

DISTRIBUTION AND ABUNDANCE OF BIRDS IN NORTHERN PELAGIC WATERS

| Species | No. Birds | Birds/Hour | Area of greatest Abundance |
|-------------------------|-----------|------------|----------------------------|
| Wedge-tailed Shearwater | 80 | 0.93 | 13-15° N - 101-103° W |
| Sooty Shearwater | 4 | 0.05 | - |
| Manx Shearwater | 21 | 0.24 | 13-15° N - 098-103° W |
| Herald Petrel | 1? | 0.01 | - |
| Kermadec Petrel | 3 | 0.03 | - |
| Phoenix/Tahiti Petrel | 1 | 0.01 | - |
| Murphy Petrel | 2 | 0.02 | - |
| Dark-rumped Petrel | 1? | 0.01 | - |
| Juan Fernandez Petrel | 349 | 4.05 | 13-15° N - 101-103° W |
| Black-winged Petrel | 7 | 0.08 | 12° N - 118° W |
| Leach Petrel | 61 | 0.71 | Random ? |
| Soccorro Petrel | 7 | 0.08 | 25° N - 118° W |
| Least Petrel | 5 | 0.06 | - |
| Sooty Petrel | 5 | 0.06 | 13° N - 097° W |
| Red-tailed Tropicbird | 6 | 0.07 | 12° N - 118° W |
| Red-billed Tropicbird | 6 | 0.07 | 13° N - 097° W |
| Blue-faced Booby | 10 | 0.12 | 13° N - 097° W |
| Brown Booby | 8 | 0.09 | 15° N - 101° W |
| Red-footed Booby | 5 | 0.06 | 15° N - 101° W |
| Pomarine Jaeger | 5 | 0.06 | 13#17° N - 101-106° W |
| Sooty Tern | 1 | 0.01 | - |

COUNTERCURRENT: 899 miles and 85.7 hours of observations were completed in this area. Twenty-five plus species were recorded with Juan Fernandez Petrels outnumbering all others. Average density was 1.71 BSM. In the western section birds were concentrated at the southern boundary, whereas in the eastern section they were concentrated at the northern boundary. This, plus the fact that some species (eg. Manx Shearwaters, Boobies, Frigatebirds) were found only in the eastern section, and that the Counter-current was not detectable in the eastern section, shows the effect that water masses may have on the distribution of pelagic birds. TABLE 4 shows the distribution and comparative abundance of birds within this area.

TABLE 4

DISTRIBUTION AND ABUNDANCE OF BIRDS WITHIN THE COUNTERCURRENT

| Species | Longitude: | | | | Total Number Birds | Birds/Hour |
|-------------------------|------------|---------|---------|---------|--------------------|------------|
| | 118.5 W | 111.5 W | 104.5 W | 097.5 W | | |
| Wedge-tailed Shearwater | 481 | 351 | 111 | 39 | 982 | 11.5 |
| Leach Petrel | 5 | 54 | 23 | 3 | 85 | 01.0 |
| Juan Fernandez Petrel | 282 | 137 | 445 | 362 | 1,226 | 14.3 |
| Phoenix/Tahiti Petrel | 2 | 4 | 0 | 2 | 8 | 00.1 |
| Black-winged Petrel | 4 | 3 | 0 | 4 | 11 | 00.1 |
| White-necked Petrel | 2 | 1 | 0 | 0 | 3 | -00.05 |
| Red-tailed Tropicbird | 2 | 7 | 0 | 0 | 9 | 00.1 |
| Bulwer Petrel | 1 | 0 | 0 | 0 | 1 | -00.05 |
| White-faced Petrel | 1? | 0 | 0 | 0 | 1? | -00.05 |
| Kermadec Petrel | 0 | 2 | 1 | 2 | 5 | 00.1 |
| Harcourt Petrel | 0 | 8 | 0 | 2 | 10 | 00.1 |
| Pomarine Jaeger | 0 | 1 | 0 | 11 | 12 | 00.1 |
| Collared Petrel | 0 | 4 | 2 | 0 | 6 | 00.1 |
| Common Noddy Tern | 0 | 1 | 1 | 0 | 2 | -00.05 |
| Sooty Tern | 0 | 239 | 0 | 0 | 239 | 02.8 |
| Giant Petrel | 0 | 2 | 0 | 0 | 2 | -00.05 |
| Pale-footed Shearwater | 0 | 1 | 0 | 0 | 1 | -00.05 |
| White-tailed Tropicbird | 0 | 1 | 0 | 0 | 1 | -00.05 |
| Socorro Petrel | 0 | 0 | 3 | 23 | 26 | 00.3 |
| Manx Shearwater | 0 | 0 | 4 | 9 | 13 | 00.2 |
| Pink-footed Shearwater | 0 | 0 | 7 | 2 | 9 | 00.1 |
| Blue-faced Booby | 0 | 0 | 3 | 7 | 10 | 00.1 |
| Red-footed Booby | 0 | 0 | 0 | 30 | 30 | 00.4 |
| Sooty Petrel | 0 | 0 | 0 | 4 | 4 | 00.1 |
| Great Frigatebird | 0 | 0 | 0 | 3 | 3 | -00.05 |
| Red-billed Tropicbird | 0 | 0 | 0 | 1 | 1 | -00.05 |
| Christmas Shearwater | 0 | 0 | 0 | 1 | 1 | -00.05 |

SOUTHERN PELAGIC: 939 miles and 95.5 hours of observations were completed in this area. Eighteen species were recorded. Collared Petrels were the most abundant and wide spread species observed, although White-throated and Juan Fernandez Petrels were close seconds. Average density was 0.33 BSM, the greatest numbers occurring in the eastern section where large numbers of unidentified storm petrels were recorded. The effects of the Peru Current and the Galapagos Archipelago were noticable in the eastern section where water temperatures were lower and such species as Swallow-tailed Gull and Dark-rumped Petrel were found. Other species (eg. Wedge-tailed Shearwater and Juan Fernandez Petrel) were restricted to the warmer waters of the western section. TABLE 5 shows the distribution and comparative abundance of birds within this area.

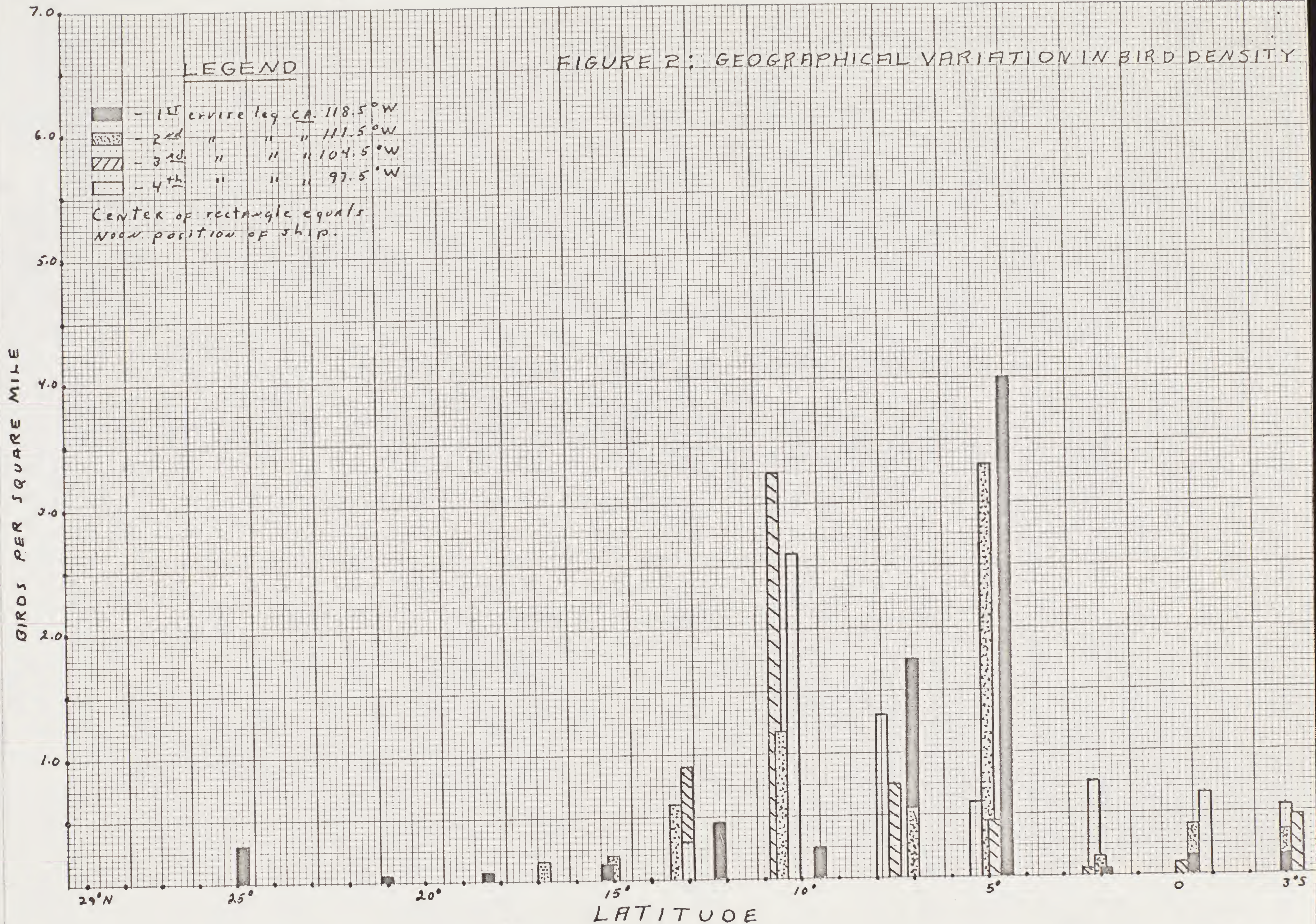
TABLE 5

DISTRIBUTION AND ABUNDANCE OF BIRDS WITHIN SOUTHERN PELAGIC WATERS

| <u>Species</u> | <u>West Half</u> | <u>East Half</u> | <u>Total Birds</u> | <u>Birds/Hour</u> |
|-------------------------|------------------|------------------|--------------------|-------------------|
| Juan Fernandez Petrel | 35 | 0 | 35 | 0.4 |
| White Tern | 3 | 0 | 3 | -0.05 |
| Wilson/Elliott Petrel | 4 | 0 | 4 | -0.05 |
| Wedge-tailed Shearwater | 3 | 0 | 3 | -0.05 |
| Black-winged Petrel | 1 | 0 | 1 | -0.05 |
| Cook Petrel | 1 | 0 | 1 | -0.05 |
| Red-tailed Tropicbird | 1 | 0 | 1 | -0.05 |
| Collared Petrel | 33 | 16 | 49 | 0.5 |
| Harcourt Petrel | 20 | 16 | 36 | 0.4 |
| White-throated Petrel | 6 | 27 | 33 | 0.3 |
| Murphy Petrel | 0 | 1? | 1? | -0.05 |
| White-bellied Petrel | 0 | 1 | 1 | -0.05 |
| Swallow-tailed Gull | 0 | 1 | 1 | -0.05 |
| Dark-rumped Petrel | 0 | 2 | 2 | -0.05 |
| Sooty Tern | 0 | 2 | 2 | -0.05 |
| Socorro Petrel | 0 | 11 | 11 | 0.1 |
| Leach Petrel | 0 | 19 | 19 | 0.2 |

Of the three pelagic areas discussed above, the Countercurrent had, by far, the largest concentration of birds and the greatest variety of species. This was particularly true at its' edges (See FIGURE 2). In the western section birds were most concentrated at the southern boundary, which was better defined in the oceanographic samples. This was the area of its convergence with the South Equatorial Current and the large avian density may be related to the mixing of waters in this area. In the eastern section greatest density was found at the northern edge, possibly due to the farther northward penetration of the colder waters of the Peru Current and also to the northward deflection and diffusion of the Countercurrent. It is also apparent that the middle section of the countercurrent had a greater density then either the Northern Pelagic Waters or the Southern Pelagic Waters.

FIGURE 2: GEOGRAPHICAL VARIATION IN BIRD DENSITY



SPECIES ACCOUNTS

DIOMEDEIDAE

Black-footed Albatross (Diomedea nigripes): 5. None showed any white except in the facial region. Birds followed the ship only on the first day out of San Diego and were last recorded at 28°19'N.

PROCELLARIIDAE

Wedge-tailed Shearwater (Puffinus pacificus): 1,041. Seventy-six percent of the birds observed were dark-phase. One large concentration (200 birds) of light-phase, however, was observed at 05°24'N by 111°39'W in a flock with 100 dark-phase birds. This species was most abundant in the Countercurrent area with only three individuals recorded in the South Equatorial Current.

Pink-footed Shearwater (Puffinus creatopus): 269. Most abundant along the coast of central Baja California, although a few scattered individuals were recorded south to 07.4°N.

Pale-footed Shearwater (Puffinus carneipes): 2. One bird recorded in the Countercurrent and another along the coast of central Baja California.

Sooty Shearwater (Puffinus griseus): 61. Most abundant along the coast of central Baja California, but scattered individuals were recorded south to 13.8°N.

Christmas Shearwater (Puffinus nativitatus): 1. Recorded at 07°38'N by 097°26'W.

Manx Shearwater (Puffinus puffinus): 615. Primarily a bird of the coastal waters from at least northern Baja California south to Central Mexico. A few scattered birds were recorded at sea south to 09.0°N, their range apparently ending at the northern boundary of the Countercurrent.

Giant Petrel (Macronectes giganteus): 2. On 02 July, at 08°13'N by 111°17'W, two birds were flushed from the water about 500 yards from the ship. They flew away from the ship with heavy wing-beats and glides, but without arcing. They were easily larger than Black-footed Albatross and were very chunky with broader and shorter appearing wings. The color appeared to be a mottled brown with a lighter, but not white, head. The bill and underparts were not observed.

Herald Petrel (Pterodroma arminjoniana): 1?. One bird believed to be this species was observed at 25°13'N by 118°06'W.

Kermadec Petrel (Pterodroma neglecta): 6+2?. One intermediate and five dark-phase birds were all found north of 05°N with most in the Countercurrent region.

Phoenix/Tahiti Petrel (Pterodroma alba/rostrata): 10. Primarily a bird of the Countercurrent, but one sighting to the south (00°45'N) and one to the north (12°34'N).

Murphy Petrel (Pterodroma ultima): 2+1?. The birds at 14°22'N by 118°33'W and 01°53'N by 097°33'W were most likely this species while a third at 12°51'N by 103°36'W may have been.

Dark-rumped Petrel (Pterodroma phaeopygia): 2+1?. The two birds definitely identified as this species were both in the southeastern part of the South Equatorial Current nearest the Galapagos Islands and in the coldest waters of the whole area.

Juan Fernandez Petrel (Pterodroma externa): 1,613. The major population was centered in the Countercurrent, although some birds were found north to 14°22'N and south to 03°S. The vast majority of birds were undergoing heavy molt, especially noticable in the outer primaries. Of the 27 birds well observed south of the Countercurrent, however, 92.5 percent showed no apparent molt. This may indicate that birds south of the Countercurrent were late breeding adults or first year birds still moving north. Three birds, found between 06° and 07°N and 111° and 119° W were definitely the western form (P. e. cervicalis).

Black-winged Petrel (Pterodroma hypoleuca): 19. These birds were definitely the form P. h. nigripennis. Greatest numbers were found in the Countercurrent, but small numbers were recorded north to 14°27'N and south to the Equator. At no time, however, did they overlap the distribution of Collared Petrels (See FIGURE 3). The few individuals that were seen in the same water type as Collared Petrels were seen on different days.

Collared Petrel (Pterodroma leucoptera): 55. These birds were definitely the form P. l. brevipes. Their distribution was primarily throughout the South Equatorial Current, although a few were found north to 05°22'N. See FIGURE 3 for comparison with the preceeding species.

Cook Petrel (Pterodroma cookii): 101. All but one were recorded along the coast of southern Baja California. The one exception, possibly a migrant, was found at 03°S by 118°22'W.

Bulwer Petrel (Bulweria bulweri): 1. A single sighting at 07°04'N by 118°35'W.

HYDROBATIDAE

The difficulty in distinguishing between the various members of this group makes it nearly impossible to give a detailed and accurate

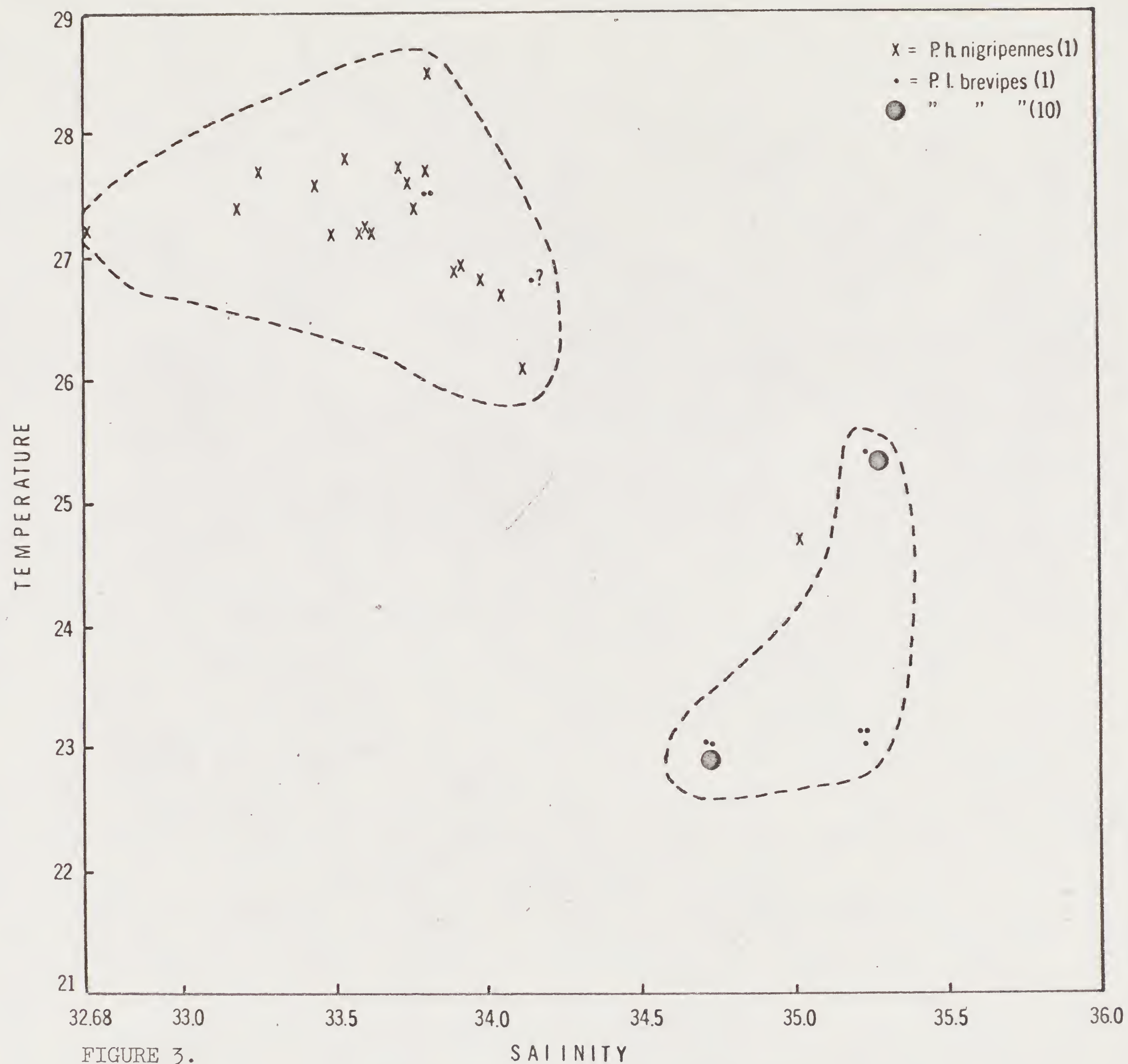


FIGURE 3.

Temperature-Salinity Preference of Cookelaria
June-July 1967

analysis of their density and distribution. The following accounts should thus be considered open to serious question, but are the "best guess" at the present time.

Leach Petrel (Oceanodroma leucorhoa): 380. Fifteen percent of all birds identified as this species belonged to the dark-rumped form (Socorro Petrel). The species as a whole was most abundant in coastal waters near their breeding islands, but individuals were found scattered throughout the entire area. Socorro Petrels had a second area of concentration from 03°S to 15°N along Longitude 097.5°W. A large number (85+) of "white-rumped storm petrels" in this latter area may have been this species or might have been Galapagos Petrels (Oceanodroma tethys) or Harcourt Petrels (Oceanodroma castro).

Harcourt Petrel (Oceanodroma castro): 46. Apparently most abundant in the South Equatorial Current, but probably present in small numbers at least to 10°N. The collection of one specimen at 00°54'N by 097°31'W confirms their presence in this area.

Sooty Petrel (Oceanodroma markhami): 9. These birds were observed only along Longitude 097.5°W between 07° and 13.5°N. In color and shape they appeared identical to Socorro Petrels, but their flight pattern was more erratic and they were almost twice as large.

Ashy Petrel (Oceanodroma homochroa): 31. Found only in coastal waters off of central Baja California.

Black-Petrel (Loomelania melania): 36. Coastal waters of Baja California and Mexico from 20° to 25°N.

Least Petrel (Halocyptena microsoma): 9. Most abundant in the general area of Guadalupe Island, although two birds were found at sea between 12.6° and 15.7°N.

Wilson/Elliott Petrel (Oceanites oceanicus/gracilis): 4. All found within the warmer western waters of the South Equatorial Current.

White-throated Letrel (Nesofregetta albigularis): 33. Found throughout the South Equatorial Current, but most abundant in the colder eastern area.

White-bellied Petrel (Fregetta grallaria): 1. This bird had a well defined dark throat and pure white belly. It was observed at 01°42'N by 104°41'W.

White-faced Petrel (Pelagodroma marina): 1?. One brief sighting of a bird which might have been this species occurred at 07°16'N by 118°31'W.

PHAETHONTIDAE

Red-billed Tropicbird (Phaethon aethereus): 9. All but one were observed within ca. 250 miles of the coast. The exception was also the farthest south and was recorded at 10°05'N by 097°33'W.

Red-tailed Tropicbird (Phaethon rubricauda): 16. In contrast to the above species all sightings, with one exception, were over 250 miles from the coast. Apparently this species is most abundant in, or just north of, the Countercurrent. One bird, however, was recorded at 03°S by 115°W.

White-tailed Tropicbird (Phaethon lepturus): 1. One individual was recorded in the countercurrent at ca. 10°N by 104.6°W.

SULIDAE

Blue-faced Booby (Sula dactylatra): 31. All but five were within 500 miles of the coast of southern Mexico, and three of these were within 300 miles of Clipperton Island. The species was found south to 04°16'N and west to 109°W. The most pelagic of the individuals recorded were all first-year birds.

Brown Booby (Sula leucogaster): 761. Strictly a coastal species found from 20°N south at least to Acapulco, Mexico.

Red-footed Booby (Sula sula): 43. Restricted to eastern areas (east of 105°W). One light-phase adult was recorded at 18°05'N by 105°W, and one sub-adult light-phase at 09°30'N by 097°33'W. The rest were all first year birds.

Blue-footed Booby (Sula nebouxii): 2?. Several birds were seen in the coastal waters off Manzanillo, Colima, Mexico which may have been this species.

PHALACROCORACIDAE

Eighteen cormorants were observed in the waters around Cedros Island, Baja California. All appeared to be Brandt Cormorant (Phalacrocorax penicillatus) although none were observed close enough for positive identification.

FREGATIDAE

Magnificent Frigatebird (Fregata magnificens): 7. All recorded along the coast from 16° to 25°N.

Great Frigatebird (Fregata minor): 3. Although only three individuals were identified, 24 others were recorded within the Countercurrent area, with maximum density along Longitude 097.5°W. All of these probably belonged to this species.

PHALAROPODIDAE

Northern Phalarope (Lobipes lobatus): 15,093. All were along the coastal area from 20° to 28°N with maximum density at 25°N.

Red Phalarope (Phalaropus fulicarius): 10. Observed along the coast only at 25°N, but many were probably overlooked in the large concentrations of Northern Phalaropes in other areas.

STERCORARIIDAE

Pomarine Jaeger (Stercorarius pomarinus): 15. 73 percent were dark-phase birds. All but one were within 300 miles of the coast. The exception was at 07°10'N by 111°24'W.

LARIDAE

Laughing Gull (Larus atricilla): #. Scattered birds were observed near and within the harbor at Manzanillo, Colima, Mexico.

Western Gull (Larus occidentalis): 12. Observed only along the northern coast of Baja California from Cedros Island north.

Heerman Gull (Larus heermanni): 26. Observed only along the northern coast of Baja California from Cedros Island north.

Sabine Gull (Xema sabini): 32. Two, apparently migratory, flocks. One of 10 birds at ca. 28°N and one of 22 birds at ca. 17°N both near the coast.

Swallow-tailed Gull (Creagrus furcatus): 1. In the colder water of the South Equatorial Current at 02°39'N by 097°34'W. This was just over 300 miles WNW of the Galapagos Archipelago.

Forster Tern (Sterna forsteri): 4. Observed only along the coastal waters of Southern California and northern Baja California.

Royal Tern (Thalasseus maximus): 45. Observed only along the coastal waters of Southern Baja California.

Sooty Tern (Sterna fuscata): 546. Only 3 feeding flocks were found, all containing immature birds. One of 225 at 05.4°N by 112°W; one of 12 at 05.5°N by 111.6°W; and one of 300 at 18.6°N by 104.9°W. Scattered birds were recorded in areas near the above concentrations, and one bird each was recorded at 00°13'N by 104°39'W (an immature), and 01°26'N by 097°32'W (an adult).

Common Noddy Tern (Anous stolidus): 2. Both were within 300 miles of Clipperton Island.

White Tern (Gygis alba): 3. Recorded in the South Equatorial Current at 03°S and from 114°47'W to 115°53'W.

ALCIDAE

Xantus Murrelet (Endomychura hypoleuca): 9. Throughout the coastal waters of Baja California.

Cassin Auklet (Ptychoramphus aleutica): 28. Throughout the coastal waters of southern Baja California.

MAMMALS

Common Dolphin (Delphinus delphis bairdi): 25. This species was identified in waters off the coast of southern Baja California, and may have been present as far south as Manzanillo Harbor.

Spotted Dolphin (Stenella graffmani): 5. Definitely identified only in the area of Manzanillo Harbor where a few played around the bow of the ship as it entered the harbor.

Pilot Whale (Globicephala melaena): 41. Recorded in coastal waters of southern Mexico from ca. 18° to 20°N, and in the Counter-current from ca. 105° to 97°W.

Sperm Whale (Physeter catodon): 1. One small (ca. 8 feet) individual drifted by the ship at 10°45'N by 104°34'W.

Fin Whale (Balaenoptera physalus): 3. Three individuals were observed in the South Equatorial Current at 00°25's by 97°30'W. All were large (75+ feet) adults moving southwest.

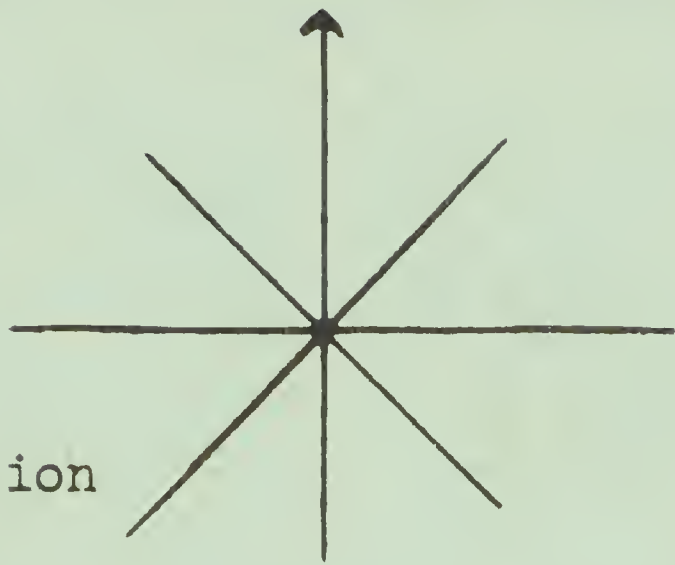
Sea Lion (Zalophus californicus): 1. An immature male Sea Lion was tentatively identified as belonging to this species as it followed the ship at 2400 hours on 22 July. The location was 03°36'N by 97°35'W.

TABLE 6 gives a summary of all Mammal sightings during the cruise.

TABLE 6

MAMMAL SIGHTINGS FOR EASTROPAC 30

| Date | Porpoise/ Dolphin | Spotted Dolphin | Common Dolphin | Whale | Pilot Whale | Sperm Whale | Fin Whale | Sea Lion |
|---------|----------------------|--------------------|-------------------|-------|----------------|----------------|--------------|-------------|
| 16 June | 75 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17 June | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30 June | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 07 July | 200 | 5 | 0 | 0 | 20 | 0 | 0 | 0 |
| 13 July | 20 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 14 July | 0 | 0 | 0 | 0 | 12 | 0 | 0 | 0 |
| 17 July | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21 July | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| 22 July | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 23 July | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 July | 30 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| 29 July | 40 | 0 | 0 | 0 | 5 | 0 | 0 | 0 |
| 30 July | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 31 July | 50 | 0 | 25 | 0 | 0 | 0 | 0 | 0 |
| Total | 520 | 5 | 25 | 2 | 41 | 1 | 3 | 1 |



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

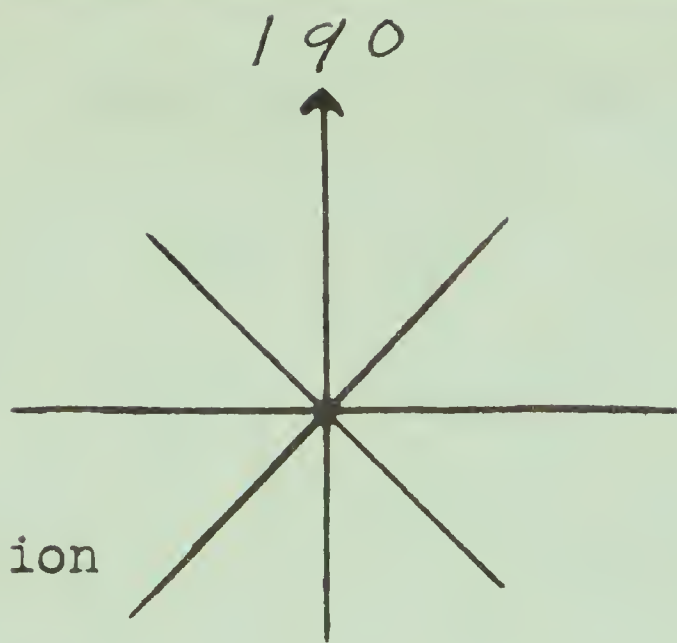
R/V DAVID STARR Jordan

Patrick Gould

SPECIMEN
or

Date 14 June 1967
Pg. # 1

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|----------------------|---------|---|------|----------|--|
| 1600 to sunset | | | | | <p>scattered observations throughout period - no regular times or schedule all observations are of birds in inner San Diego Harbor, most while tied up refueling. There is a live boat holding area near here which has attracted many birds, especially Gulls.</p> <p>Gulls 500 ± 50 at least ⁴⁰ 50 % were Western Gulls, but there were smaller California/King-billed Gulls and probably a few Herring Gulls - <u>No</u> Glaucous-winged or Herman's Gulls.</p> <p>Caspian Terns 5 ± 1 Least Terns 15 ± 5 Double-crested Cormorants 25 ± 3 Brown Pelican 1 Forsters Tern/Comm Tern 3 ± 1 Cliff Swallow 1</p> |



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

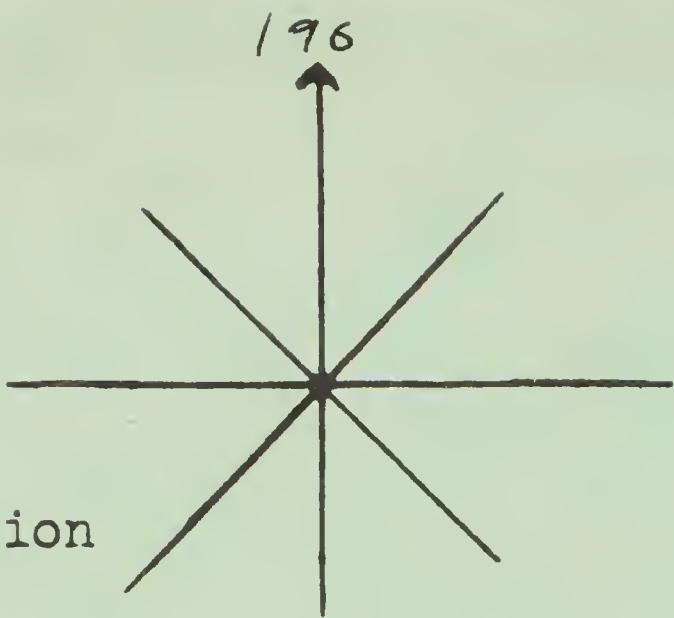
Pit Gould

Date 15 June 1967
Pg. # 1

SPECIMEN or sky heavy overcast

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|--------------|--------------------------|---|------|-----------|--|
| 0555 | Forster Tern | 1 | ☉ | — | searching, summer plumage - Ad. some bird following behind ship at 0602 |
| 0605 | Tern | 1 | v | — | probably same kind as above - |
| 0610 | Leach St. Pet | 1 | nmw | searching | (The light is very poor) |
| 14 | Leach St. Pet | 6 | w | | |
| 16 | " | 1 | w | | |
| 17 | Leach St. Pet | 1 | ☉ | | |
| 18 | Black-footed Albatross | 1 | | | Feeding |
| 21 | Leach St. Pet | 1 | | | Feeding - following ship at 0627, again at 0650 - has missing end of a few 1's |
| 22 | Storm Pet | 1 | SW | | searching |
| 23 | Leach Petrel | 1 | nmw | | searching |
| 25 | Storm Pet | 1 | | | distinct but behavior identical to above Leach's. |
| 28 | Leach Pet. | 1 | nmw | searching | |
| 41 | Leach Pet | 1 | nmw | search. | |
| 44 | St. Pet | 1 | nmw | " | flaw like Leach Pet. |
| 45 | St. Pet | 1 | nmw | " | flaw like Leach Pet |
| 0712 | Forster Tern | 3 | NE | | |
| 0716 | Leach Pet | 1 | nmw | Search | |
| 17 | Leach Pet | 1 | nmw | " | |
| 18 | Leach Pet | 1 | nmw | " | |
| 25 | Red-bell Tropicbird | 1 | SW | | black in plumage, bill very red |
| 26 | Leach Petrel | 1 | nmw | search | |
| 30 | Tern | 1 | NE | | Common/Forster Tern |
| 0740 to 0752 | | | | | Breakfast Break |
| 0753 | Leach Petrel | 2 | nmw | search | feeding - within 20 or few seconds - |
| 0757 | " " | 1 | nmw | search | |

all storm (this) Petrels seem to be generally moving to west



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

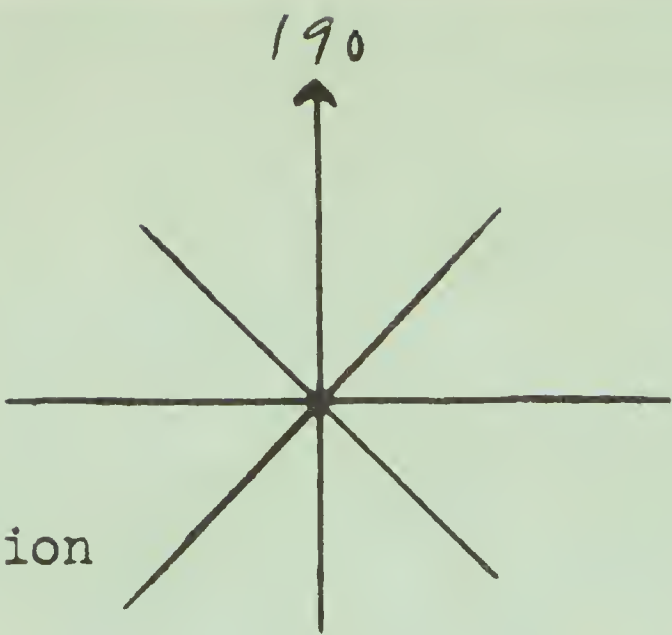
Pat Gould

Date 15 June 1967
Pg. # 2

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

| | | | | | |
|------|-------------------------|---|--------------|-----------------------|---|
| 0800 | Black-foot Albatross | 2 | Follows ship | | new bird in duck phase and beginning molt - inner primaries new - outer ones old. |
| 0820 | " | 3 | Follow ship | | |
| 0827 | Leach Petrel | 1 | SE | | new bird duck phase, all primary lost ^{new} |
| 0845 | Leach Petrel | 1 | SE | | |
| 0900 | Leach Petrel | 1 | W | | very little white on wings |
| 0901 | Leach Petrel | 1 | W | | |
| 0909 | Storm Petrel | 1 | W | | |
| 0910 | " " | 2 | E | | albatross #2 + 3 still behind ship |
| 0920 | Leach Petrel | 1 | W | | albatross #1 not seen since 0830 |
| 0920 | | | W | feeding water of ship | all 3 flew like Leach's Petrels |
| 0930 | Storm Petrel | 1 | W | | all 3 Black-foot Albatross now behind ship |
| 37 | " " | 1 | W | | including #1. |
| 40 | " " | 1 | W | | Probably Leach's |
| 41 | " " | 1 | W | | all flew - looked like Leach's but too far out to see white wings. |
| 46 | Leach Petrel | 1 | W | | flew like Leach's |
| 46 | Storm Petrel | 1 | " | | |
| 47 | Leach Petrel | 1 | " | | |
| 56 | " " | 1 | W | | |
| 1001 | Socorro Pet. | 1 | W | | grey wings |
| 1002 | Socorro Pet. | 1 | W | | |
| 1004 | Leach Petrel | 4 | W | | |
| 1005 | " " | 1 | W | | |
| 1006 | X-mas Murrelet | 3 | W | | done as ship approached |
| 1008 | Leach Petrel | 2 | W | | |
| 1009 | " " | 1 | W | | |
| 1010 | " " | 1 | E | | |
| 1010 | Storm Petrel | 1 | " | | |
| 1018 | Leach Petrel | 1 | W | | |
| 1020 | " " | 1 | W | | |
| 1020 | " " | 1 | W | | |



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

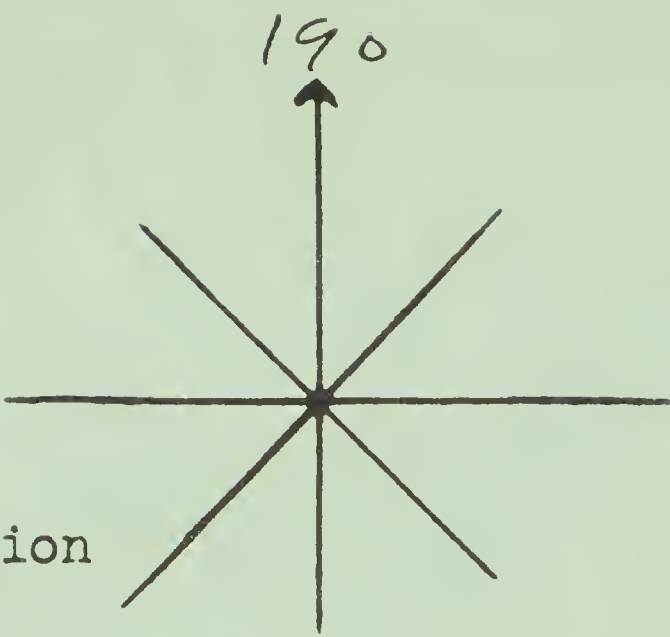
OBSERVERS:

Pat Gould

Date 15 June 1967
Pg. # 3

SPECIMEN
or

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|------|--|----|------------------------|----------|--|
| 1023 | Leach Petrel | 1- | ⊙ | | |
| 1027 | " " | 1- | E | | |
| 1030 | " " | 1- | N | | |
| 1034 | Sooty ^{Sooty} Petrel | 1- | ⊙ | | well seen and observed with Leach's. bird was slightly smaller, with body & wing appearing slimmer. Flight almost identical, ring color with back. It could have been Sooty Petrel, but the more slender appearance seems to argue in favor of Sooty. |
| 1036 | Leach Petrel | 1- | ⊙ | | |
| 1040 | " " | 1- | ⊙ | | |
| 1040 | Sooty Petrel | 1- | ⊙ | | |
| 1043 | Black-footed Albatross | 4- | 2000 514 | | |
| 1043 | NO | | | | Secured watch at 1043 |
| 1305 | OBS. | | | | There are 4 Black-footed Albatross now following ship. |
| 1305 | Leach Petrel | 1- | ⊙ | | Resumed watch at 1043 1305 |
| 1306 | " " | 1- | ⊙ | | |
| 1307 | " " | 1- | ⊙ | | |
| 1307 | " " | 1- | ⊙ | | |
| 1308 | " " | 3- | on H ₂ O | | |
| 1310 | " " | 1- | ⊙ | | |
| 1310 | " " | 1- | N | | |
| 1315 | " " | 1- | ⊙ | | |
| 1317 | " " | 1- | ⊙ | | |
| 1318 | Sooty ^{Sooty} Petrel | 1- | ⊙ | | |
| 1320 | Leach Petrel | 1- | ⊙ | | |
| 1322 | " " | 1- | →W | | |
| 1324 | " " | 2- | →W | | |
| 1326 | " " | 1- | ⊙ | | |
| 1327 | " " | 1- | ⊙ | | |
| 1327 | " " | 1- | →W | | |
| 1330 | " " | 1- | →W | | |
| 1333 | " " | 1- | →W | | |
| 1335 | " " | 1- | →W | | |
| 1336 | " " | 1- | →W | | |



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. Gould

Date

15 June 1967

Pg. #

4

SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

1338 Leach Petrel 1 →W

1340 " " 1 →N

1343 " " 1 ?

1345 " " 1 ?

1344 " " 1 ⊙ →W

1344 " " 2 ⊙ →W

1347 Storm Petrel 1 SW

1348 Leach Petrel 1 →N

1351 " " 1 →W

1352 " " 1 →W

1353 Blue-vented Shearwater 1 N

1358 Leach Petrel 1 →W

1359 Leach Petrel 1 →W

1359 Leach Petrel 2 →W

1400 Leach Petrel 3 →W

LEAST Leach Petrel 1 →W

1405 Leach Petrel 1 →W

1410 " " 1 →W

1410 " " 1 →W

1410 " " 1 ⊙ feeding

1411 " " 1 →W

15 Storm Petrel 1 →

17 Leach Petrel 1 →N

17 Storm Petrel 1 →N

17 " " 1 →N

22 Leach Petrel 1 →NW

23 Storm Petrel 1 ⊙

30 Leach Petrel 1 →W

30 " " 1 →W

31 " " 1 →W

34 Storm Petrel 1 →E

36 Leach Petrel 1 →W

36 " " 1 →W

38 " " 1

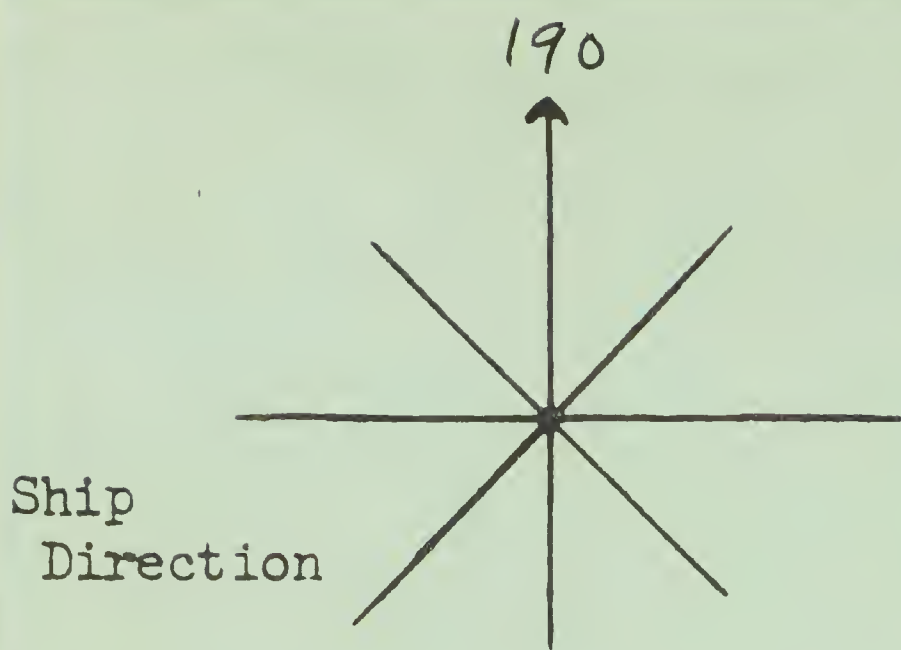
traveling with much gliding

Traveling - smaller than wedge-tail, white below definite brown above - underwing white with distinct, but hozy brown border gradually fading into the white. wing beats rapid stiff and fairly shallow, interspersed by long glide

quite a bit smaller bird, wing beats much more rapid and a faster more darting flight than Leach's, tail wedge-shaped. This is not what like the birds I have been calling Ashy.

} probably Leach's

probably Leach's



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. Gould

Date *15 June, 1967*

Pg. # *5*

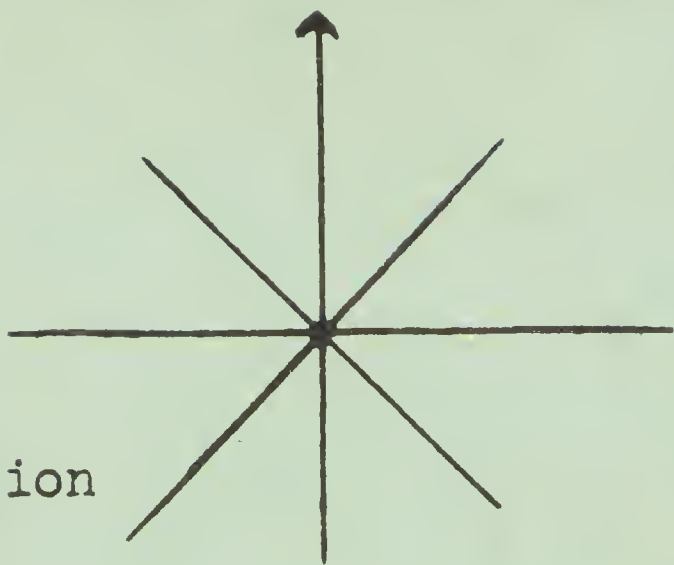
SPECIMEN

OR

DIR. BAND NO. REMARKS

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|------|---|----|------------------------|----------|---|
| 1440 | Leach Petrel | 10 | on H ₂ O | | roft of Storm Petrel flew as ship approached |
| 1443 | Storm Petrel | 1 | →W | | |
| 53 | Leach Pet | 2 | →W | | |
| 53 | " " | 1 | →W | | |
| 54 | Leach Pet | 3 | | | |
| 54 | Sooty or Ashy or Swallow | 1 | ⊙ | | flew and looked identical to Leach's except that entire wing differently brown |
| 54 | Leach Pet | 1 | →W | | |
| 56 | " " | 1 | →W | | |
| 59 | Storm Pet | 1 | → | | |
| 1501 | Blue & - footed Albatross | 1 | | | may be red # 2 |
| 1503 | Leach Petrel | 1 | →W | | |
| 1503 | Storm Pet | 1 | →S | | |
| 1506 | Leach Pet | 1 | →W | | |
| 1507 | Leach Pet | 7 | ⊙ | | |
| 1508 | Leach Pet | 1 | ⊙ | | |
| 1508 | " " | 1 | ⊙ | | |
| 1508 | " " | 1 | ⊙ | | |
| 1510 | " " | 1 | → | | |
| 1514 | " " | 1 | →N | | |
| 1515 | Storm Pet | 1 | ⊙ | | |
| 1521 | Black-vented Shearwater | 2 | SW | | |
| 1524 | Leach Petrel | 1 | →W | | |
| 1526 | Leach Petrel | 3 | | | |
| 1530 | Sooty or Ashy or Swallow | 1 | | | identical to Leach's but with brown wing - wing beats may be somewhat deeper |
| 1530 | Leach Pet | 1 | →W | | |
| 1533 | " " | 4 | ⊙ | | |
| 1535 | " " | 1 | ⊙ | | |
| 1538 | Storm Pet | 1 | N | | |
| 1542 | Leach Pet | 2 | | | |
| 1542 | Sooty or Ashy or Swallow | 2 | on H ₂ O | | |

Ship
Direction



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. Gould

Date 15 June 1967
Pg. # 6

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

| | | | | |
|------|---|--------|------------------------|---|
| 1547 | Leach Pet | 1 | E | |
| 1555 | Sooty Sooty Sooty Pet | 1 | SW | |
| 1600 | Storm Pet | 4 | on H ₂ O | 1 Black-foot albatross still following ship put them |
| | (Leach?) | 1 | | |
| | Leach Pet | 3 | | |
| 1604 | Leach Pet | 2 | ⊙ | |
| 1607 | " " | 1 | N | |
| 1607 | Storm Pet | 1 | W | |
| 1612 | Leach Pet | 7 | on H ₂ O | |
| 1615 | NO | | | |
| 1650 | 065 | DINNER | | |
| 1706 | Sooty Sooty Sooty Pet | 2 | N | |
| 1707 | Leach's Pet. | 1 | N | |
| 1709 | " " | 1 | E | |
| 1709 | " " | 1 | ⊙ | |
| 1712 | Sooty Sooty Pet | 1 | N | |
| 1712 | Leach Pet | 1 | NIE | |
| 1714 | Sooty Sooty Pet | 1 | feeding | |
| 1717 | Storm Pet | 1 | N | |
| 1718 | Leach Pet | 3 | NIE | |
| 1719 | Storm Pet. | 2 | ⊙ | |
| 1719 | " " | 1 | ⊙ | |
| 1721 | " " | 1 | N | |
| 1723 | dark-bellied stormwater | 1 | W | |
| 1725 | Storm Pet | 1 | N | |
| 26 | " " | 1 | N | |
| 27 | " " | 1 | N | |

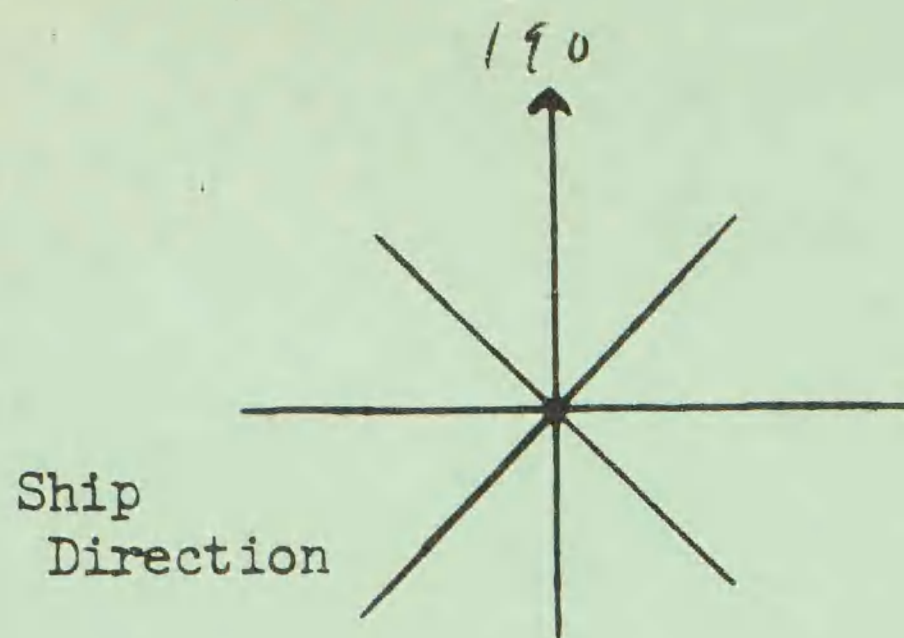
1 Black-foot albatross still following ship
put them

ca 1605 we passed out of the
area of completely overcast skies into
partly cloudy, blue skies with sun -
water now blue rather than grey -

1615 - two Black-footed albatross (one dark one)
now following ship.

1650 - 3 Black-footed albatross (all dark one)
now following ship

or dark white
rump dark grey but centrally with
brown of back -



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:
P. Gould

Date 15 June 1967
Pg. # 7

SPECIMEN

or

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|------|----------------|-----|---------|----------|--|
| 1729 | Storm Petrel | 1- | S | | |
| 1732 | " " | 1- | ⊙ | | |
| 1735 | | | | | 4 Black-footed albatross now following ship. however, none are older than #1 (very worn ratty plumage) so there have been at least 5 birds today. One of these 4 does look like #2 of this morning |
| 1755 | Tropicbird? | 1- | | | in distance looked all white. |
| 1800 | Xantus munitz | 2- | W | | traveling fast |
| 1808 | Storm Petrel | 2- | E | | Probably seals |
| 1810 | Sabine's Gulls | 10- | N to NW | | |
| 1816 | Xantus munitz | 2- | W | | traveling fast |
| 1827 | Least Petrel | 1- | W | | Direction hard to tell since they were definitely avoiding the ship. definitely appeared to be migrating. crossed bow from (Port to starboard) left to right |
| 1840 | Storm Petrel | 1- | W | | |
| 1845 | Least Petrel | 1- | SW | | |

observation resumed at 1900
sun has gone behind large dark clouds

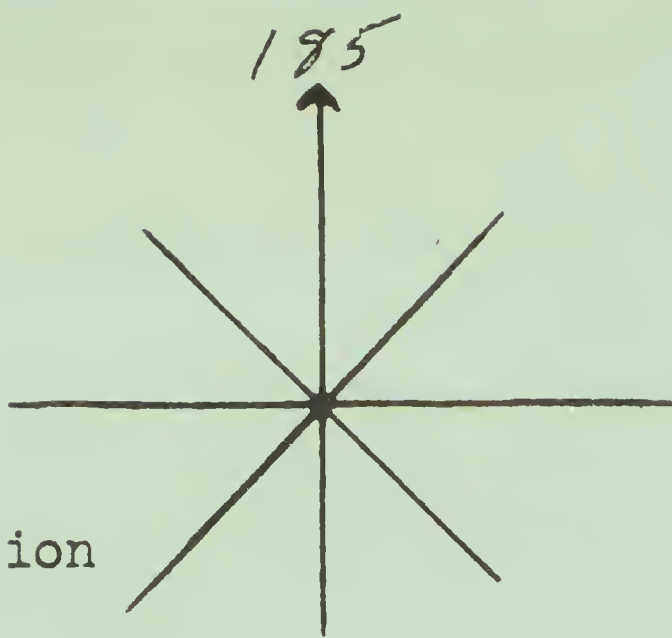
5 Flocks (41 birds)

1900
0800

3 on H₂O
1 travel
1 searching

60
60

Ship
Direction



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Pet Gould

Date 16 June
Pg. # 1

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS Begin observations - 0555' sun 0558

The sky is completely overcast with dark clouds just as yesterday. it is dark and rather cool.

0627 Kermadec? Petrel 1 NW

Too far out + not enough light to be sure. Definitely a larger size, Pterodroma with white bellie and much dark on underwing. Thought I caught sight of white patch several times on underwing, but I'm not sure. Kermadec is best possibility

0645 Cook's ^{Black-wing} Petrel 1 NE

0654 Sooty Shearwater 1 NE

-good views.

0725 Leach Petrel 1 m 420

good view close to ship - molt in progress. but pearl grey (new feathers) head brownish (old feathers) but not black, underwing with dark border but not as dark nor as wide as a Black-wing petrel? - maybe light but

0726 NO
0741 065 - BREAKFAST

0745 Cook's ^{Black-wing} Petrel 1 N

0745 ~~Leach~~ Petrel 1 Socorro

0800 Cook's ^{Black-wing} Petrel 1

0801 Leach Petrel 1 NW

0802 Storm Petrel 1

0803 " " 1

0803 Leach Petrel 1

0807 " " 1

0808 Storm Petrel 1

0814 " " 1

0815 Leach Petrel 1

0820 bird 1 E

0825 Socorro Petrel 1 NW

0830 Least Petrel 1 NE

0833 Storm Petrel 1

0835 Leach Petrel 1

0901 Herald Petrel 1 W

0946 Least Petrel 1 NE

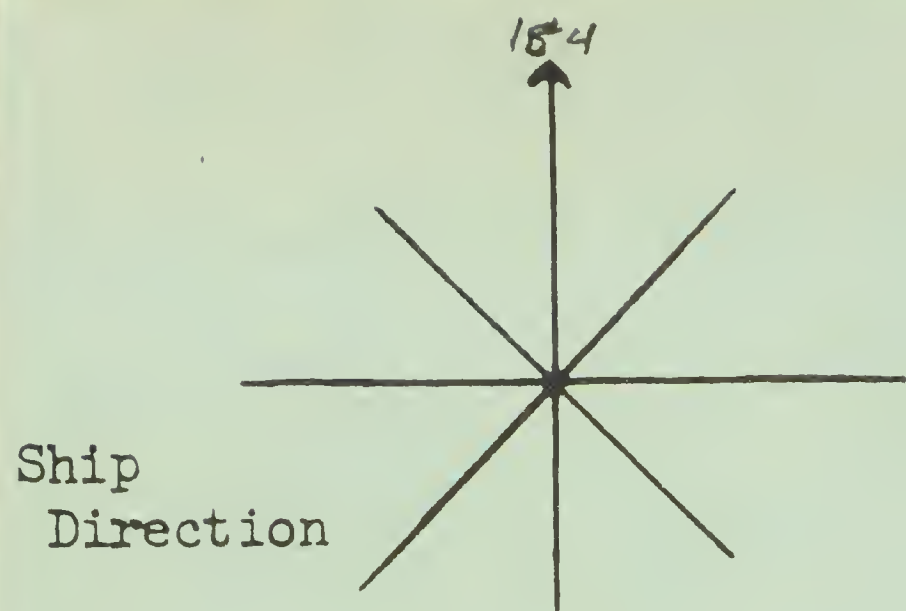
head, neck + back concolor. underwing border brown as on bird at 0645. This border is broader than I thought it should be, but it doesn't seem as sharply outlined as Black-wings.

looks like Leach's

" " "

in distance, low, fast, direct.

flopping with deep loose wing beat, seldom gliding, very little diving, wrist held bent. white bellie, center of underwing whitish, broader near body than at tip



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. Gould

Date 16 June 1967

Pg. # 2

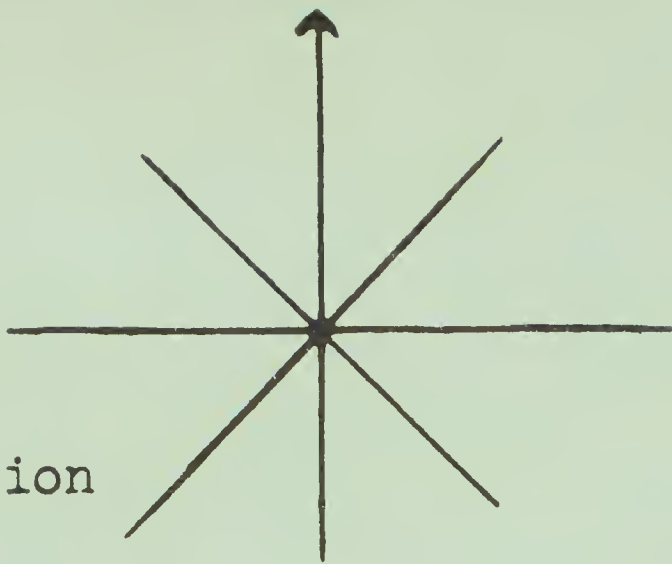
SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

| | | | | | |
|------|---|-----------------------|---------------------|--|--|
| 0952 | Leach Petrel | 1 | →W | | |
| 0958 | Socorro Petrel | 1 | →S | | |
| 1001 | Storm Petrel | 1 | →NE | | |
| 1015 | Socorro Petrel | 1 | ⊙ | | Feather one small white spot on each side of rump - tail slightly forked - flew like a Leach's, but appeared somewhat smaller |
| 1023 | Leach Petrel | 1 | →SW | | |
| 1024 | Socorro Petrel | 1 | →W | | |
| 1028 | Black-winged Cook's Petrel | 1 | on H ₂ O | | very small white patch on each side of rump |
| 1033 | Leach Petrel | 1 | →S | | |
| 1115 | NO | | | | |
| 1200 | | | | | |
| 1315 | Obs. | | | | |
| 1324 | Leach Petrel | 1 | →W | | |
| 1328 | " " | 1 | Feeding | | |
| 1328 | " " | 1 | →NW | | |
| 1330 | Flock of Black-winged Cook's Petrel | 2 | | | |
| | Leach Petrel | 3 | | | |
| | Storm Petrel | 3 | | | searching birds with over small area. dispersed as boat approached. One Cook's lit on the water. No feeding observed. No sign of fish or other food or predatory fish observed |
| 1330 | Leach Petrel | 1 | S | | |
| 1424 | Cook's Petrel? Juan Fernandez Petrel? | 1 | on H ₂ O | | Too far off to be sure but it looked big, but also appeared to have dark body on under wing. |
| 1545 | Spanish White-bellied Porpoise | large school 75±25 | WSW | | greenish white bellied Porpoise identified by mals. so very small porpoise jumping completely out of water - looked all dark at distance, dorsal fin large and curved backward. The school was quite spread out and there were perhaps 15 or 20 jumping at any one time. |

183



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. Gould

Date *16 June 1967*
Pg. # *3*

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

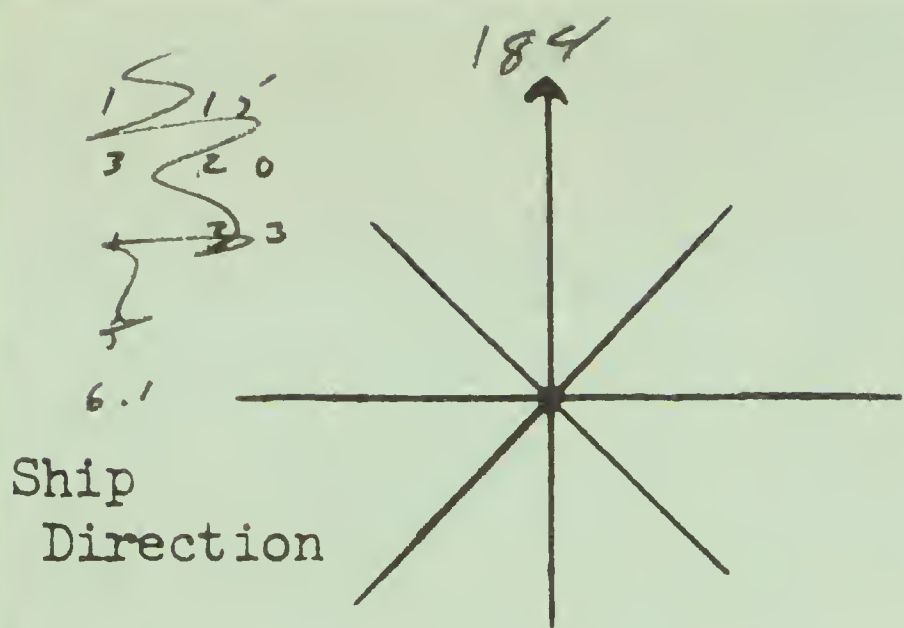
1615
to
1655

*no
obs.*

DINNER

Observations secured 1900

1 Plock = searching



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. Gould

Date 17 June 1967
Pg. # 1

SPECIMEN
or

series = 0617

observations began = 0615

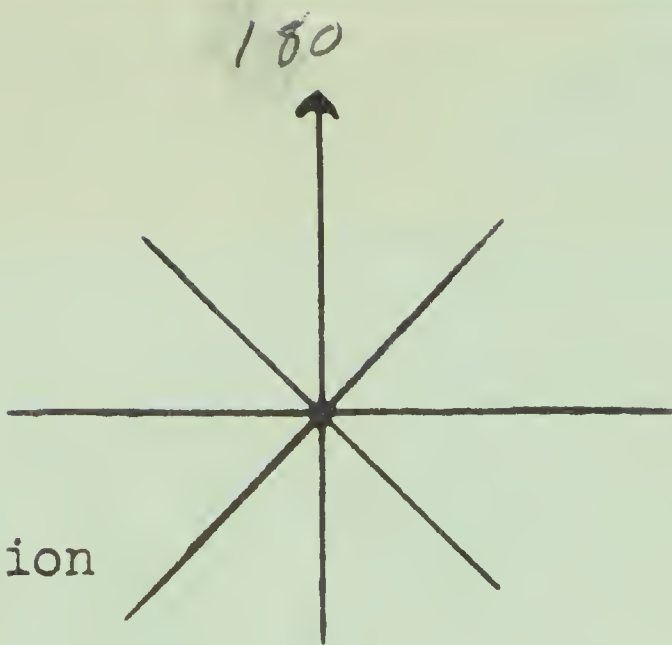
| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|--------------------|------------------|---------|------|-----------|--|
| 0640 | Porpoise | 30±10 | S | | looked solid dark on top. The whitish ventral surface did not extend too far upon the sides. Did not see the snout very well but it appeared rather blunt. |
| 0730 To 0755 | | NO OBS. | | BREAKFAST | |
| 0812 | Leach Petrel | 1 | NE | | |
| 0843 | Leach Petrel | 1 | ⊙ | | |
| 1001 | Sooty Shearwater | 1 | N | Traveling | |
| 1115 To 1430 | NO OBS. | | | | |
| 1430 To 1446 | | | | | |
| 1603 To 1805 | NO OBS. | | | | |
| 1835 | | | | | |



There have been scattered individuals, large flying fish throughout the day, as throughout yesterday. By at 1920 I saw the first large school (100+). There were apparently the same species as the shearwaters with absolutely clear (transparent) wings without markings and steel blue bodies.

miscellaneous observations on scanning made during this period failed to produce any bird sightings.

observations ceased at 1935
ca. sunset



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. Gould

Date *18 June 1967*

Pg. # *1*

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS *begin observations 0615 co. of sunrise*

sky completely cloudy at sunrise but this morning
is warmer than previous mornings
(0735)
~~0735~~ = small (10+) school of small flying fish)

There been a rain squall on the horizon
due south of us all morning. It seem to
be moving in a westerly direction. I have
felt a few scattered drops of light rain
from time to time.

(0923 = small (30+) school of small flying fish)
(0926 = second species of flying fish, 1 ca 10"
with definite red (rust) colored pectoral
scales, fins)

0750
to
0800 NO OBS. BREAKFAST

0936 STORM PETREL 1 NW

0937 Leach Petrel 1 on H₂O flew then sat down again

1005 Leach Petrel 1 ©

1020 Shearwater/
or Petrel 1 E

1032 NO
Observation

Stopped for oceanographic station, type 14
center ca 1215 -
Crew members reported a TROPICBIRD that
followed, circled ship, & departed during this time.

1345

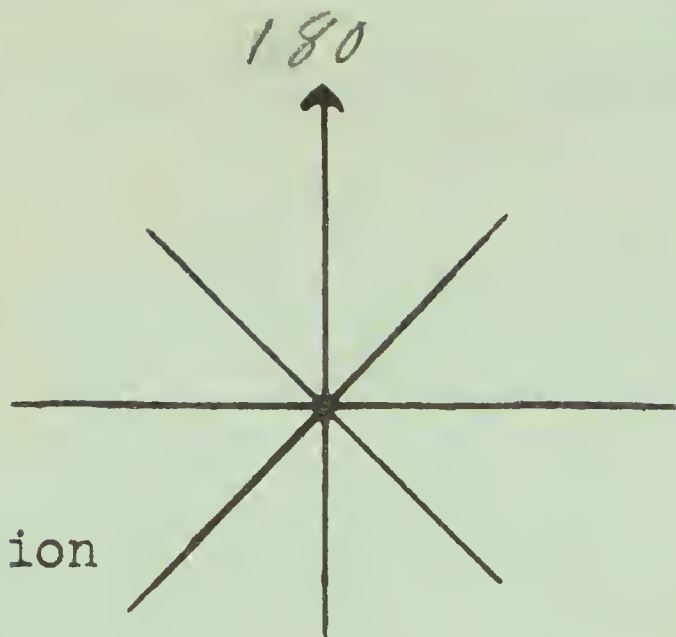
(1515 = small (30+) school of small flying fish)
1518 = " (15+) " " " "

1603
↑ NO
↓ OBS.
1726

ship stop for oceanographic station type 0

1726
↑
512 g
plankton
1741

Secured observations 1933 SI-MNH-958-e
Rev. 5-66



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

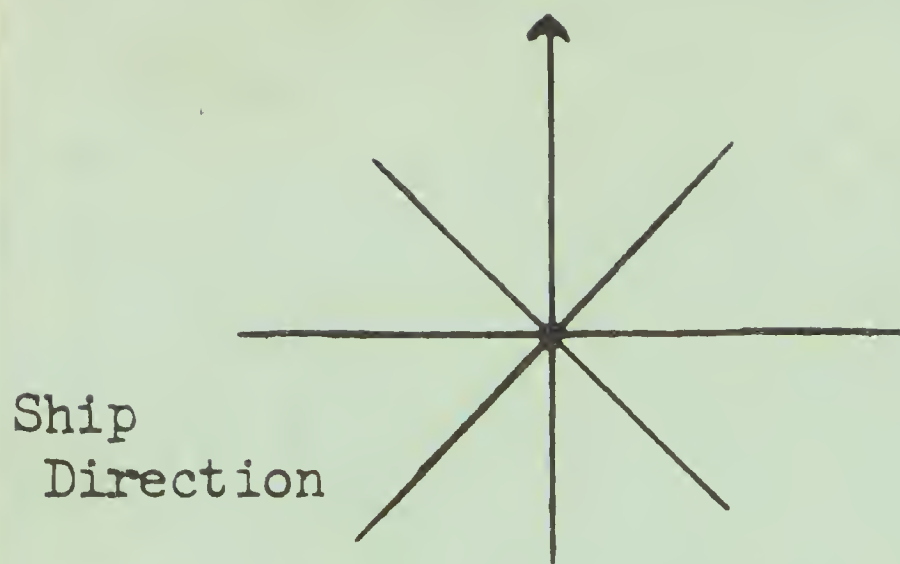
19 June 1967

Pf Gould

at 2300 last night one of the Oceanographers reported what sounds like a Townsend Shearwater flying around the light. Date 19 June 1967
SPECIMEN or like a Townsend Shearwater flying around the light. Pg. # 1
begin observations 0630 ca. sunrise

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|--------------------|-------------------------------|---|---------------------|---------------------|---|
| 0640 | Townsend's shearwater | 1 | @ | on H ₂ O | a "white bird" was reported around the lights at 0400 and again at 0600 this morning. very black back contour, with very white underparts. white on side of rump extending up about 1/2 as far as Newell's - underwings with what appeared to be a heavy and large black border. flew just like Newell (good view at fairly close range) |
| 0735 to 0750 | NO obs | | | | Breakfast |
| 0832 | Leach Petrel | 2 | ⊙ | | |
| 0853 | Leach Petrel | 2 | ⊙ | | |
| 1034 to 1325 | NO obs. | | | | Plankton Station stop until ca 1245 an all dark bird flying, like an albatross, but legs much smaller was seen by the crew during the plankton station (ca. 1200) |
| 1358 | Leach Petrel | 1 | W | | traveling |
| 1530 | Collared or Black-wing Petrel | 1 | on H ₂ O | | searched by ship out and down again strong, dark + broad underwing border. plum dot saw as to the head color but it appeared black in contrast to a definitely grey back. Best guess is (Collared Petrel) but BWP |
| 1604 to 1705 | NO obs | | | | Stop for oceanographic station type B slow speed for Plankton tow |

1705
to
1737



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

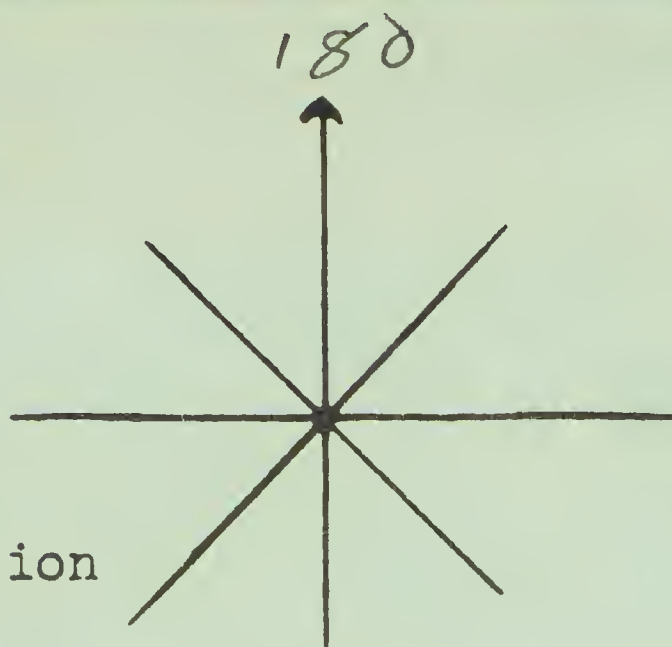
V. Gould

Date 19 June 1967
Pg. # 2

SPECIMEN
or

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|------|--|---|------|----------|---|
| 1823 | Black-winged Petrel | 1 | NW | | traveling |
| 1850 | ^{Black-winged} Cook's Petrel | 1 | N | | traveling |
| 1855 | Juan Fernandez Petrel | 1 | NW | | |
| 1857 | Murphy's Petrel | 1 | W | | all dark godfrey petrel with definite greyish plum to underwing |
| 1903 | Townsend Shearwater | 1 | E | | |
| | | | | | close observations |
| | | | | | 1924 co. sunset |

Ship
Direction



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. J. Gould

SPECIMEN

garine 0628

Date *20 June 1967*

Pg. # *1*

or

TIME SPECIES # DIR. BAND NO. REMARKS *observations beg. 0640*

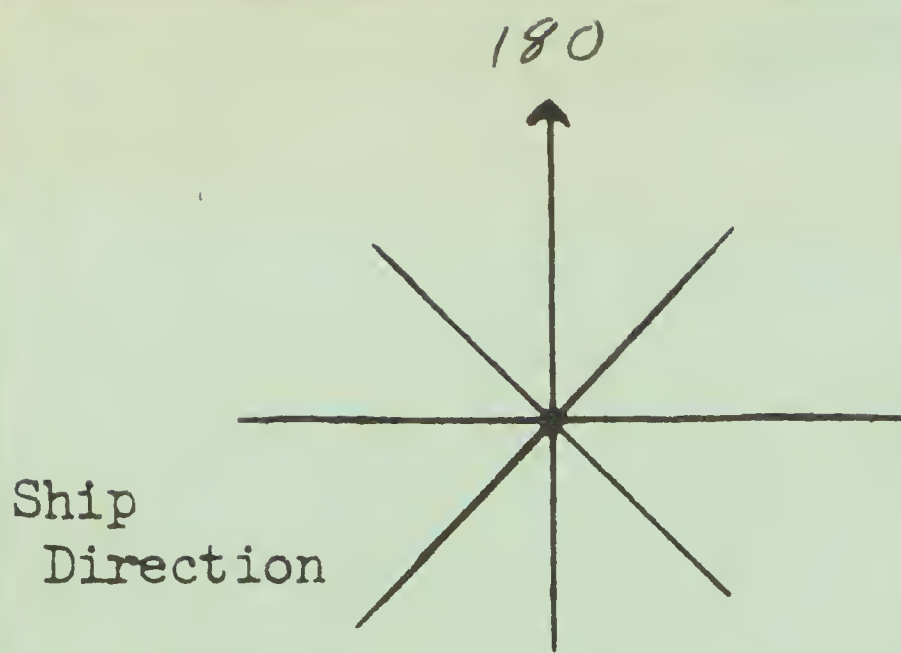
| | | | | | |
|------|-----------------------------|-------|------------------|--|--|
| 0630 | Procellariiform + Yr Gird | 1 ✓ | ? | | The watch reported a storm petrel and a white bellied shearwater around the lights at the 0400-0600 station this morning. |
| 0651 | Lark Petrel | 1 ✓ | SE SE | | |
| 0710 | Black-winged Petrel | 1 ✓ | NW | | grey head dark back, thick black underwing border - good view - typical Black-wing. |
| 0719 | Juan Fernandez Petrel | 1 ✓ | N to NW | | |
| 0726 | Cooks/n White-winged Petrel | 1 ✓ | W | | not too well seen as bird was in the distance but there appeared to be little or no black underwing border. definitely a small cookalania. |
| 0735 | Juan Fernandez Petrel | ? 1 ✓ | NW | | in distance, looked at white below |
| 0740 | Townsend's Shearwater | 1 ✓ | W | | but a little too far away to be certain about size - like like a J.F.P. |
| 0743 | Red-tail Tropicbird | 3 ✓ | N | | circled ship once all three looked fully adult. but were <u>not</u> pink. |

0745
to
0753

NO
OBS.

BREAK
FAST

| | | | | | |
|------|---------------------|-----|----|--|--|
| 0851 | Black-winged Petrel | 1 ✓ | W | | good view of back, head & underwing |
| 0858 | Pterodroma | 1 ✓ | NW | | in distance - looked often like a |
| 0903 | Shearwater | 1 ✓ | ⊙ | | cookalania - appeared not like a Black-winged Petrel. |
| 0910 | small Pterodroma | 1 ✓ | S | | in distance - large, brown backed (solid) white bellie, underwing white but appeared to have a dark border. looked very much like a little phase wedge-tailed shearwater |



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

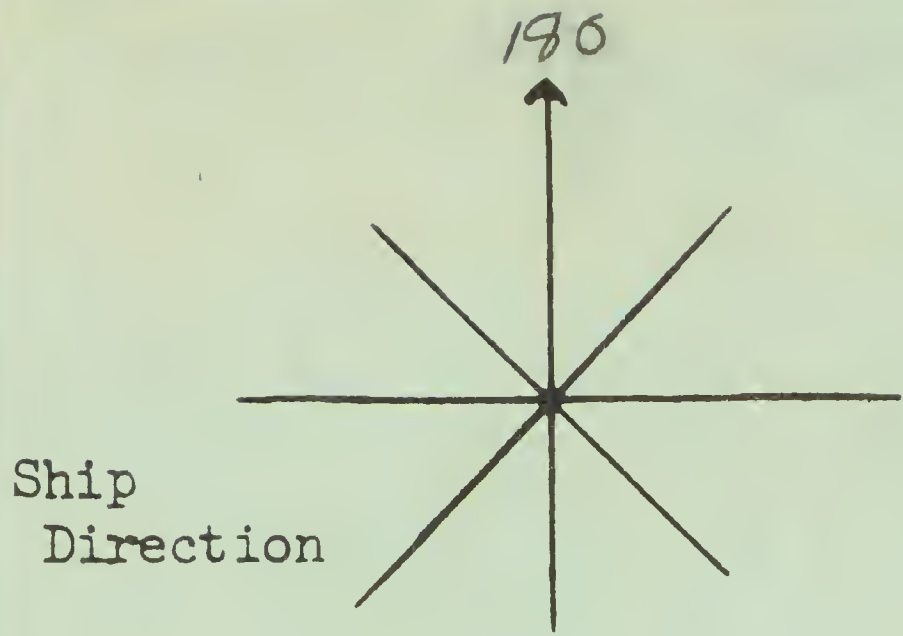
OBSERVERS:

Pf Gould

Date 20 June 1967
Pg. # 2

SPECIMEN
OR

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|--------------|-----------------------|-----|---------------------|----------|---|
| 0934 | Dark-rumped Petrel | 1 ✓ | W | | very dark on back, dark border to under wing, high scaling, otherwise looked like Townsends Petrel - heavy molt visible. |
| 0935 | Leach Petrel | 2 ✓ | Follow Ship | | |
| 0945 | Black-winged Petrel | 2 ✓ | near | | |
| 0950 | Red-tail Tropicbird | 1 ✓ | over ship | | definitely sub adult - head short red tail but yellow bill, with blackish area with blackish area, black spots appeared scattered slightly over wings & back. stayed with ship at least 5 minutes. |
| 0950 | Leach Petrel | 1 ✓ | on H ₂ O | | |
| 1007 | Small Pterodroma | 1 ✓ | NW | | |
| 1012 | Leach Petrel | 1 ✓ | ⊙ | | |
| 1012 | Black-wing Petrel | 1 ✓ | NW E | | |
| 1012 | Pterodroma | 2 ✓ | ⊙ | | |
| 1020 | Wedge-tail Shearwater | 5 ✓ | | | searching but moving south along with ship. 3 light phase, 2 dark phase stayed with ship for at least 10 minutes |
| 1025 | Leach Petrel | 1 ✓ | ⊙ | | |
| 1030 | Leach | | | | a definite Leach's Petrel was observed at 1245. |
| 1030 to 1325 | no observations | | | | C.V. Love saw an all white bird with rather thin & pointed wings flying like a shearwater. around 1230 |
| 1353 | Black-wing Petrel | 1 ✓ | on H ₂ O | | flew as ship approached but soon sat down again |
| 1410 | Shear/Pet | 1 ✓ | | | |
| 1415 | Pterodroma | 1 ✓ | on H ₂ O | | |
| 1430 | Red-tail Tropicbird | 1 ✓ | over ship | | dark rectrices short, but appeared slightly colored. bill yellow or pale orange. no indication of black marks anywhere. |
| 1457 | Leach Petrel | 1 ✓ | NW | | seen by Mike |



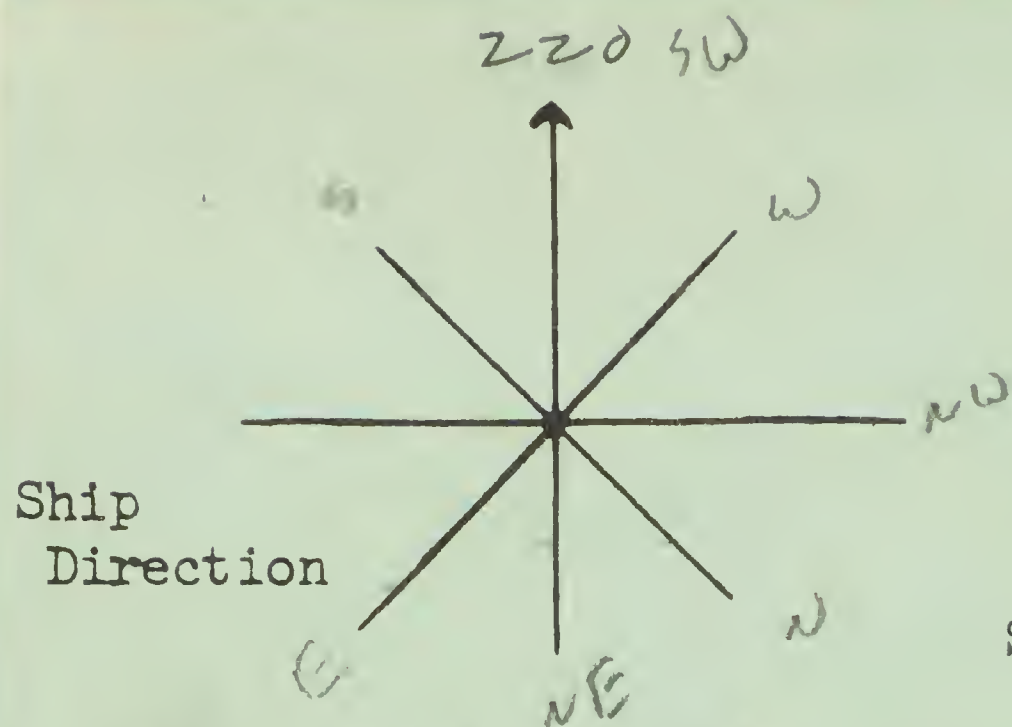
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:
Pf Gould

Date 20 June 1967
Pg. # 3

SPECIMEN
or

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|--|-----------------------|---|----------------|----------|--|
| 1507 | Juan-Fernandez Petrel | 1 | NW | | molting |
| 1507 | Leach Petrel | 1 | ⊙ | | |
| 1512 | " " | 1 | S | | |
| 1516 | " " | 2 | SE | | |
| 1523 | " " | 2 | 20/100 Ship | | |
| 1550 | " " | 6 | " | | |
| 1600 76 1815 | NO Observations | | | | Ship stopped for oceanographic station & tropicbird was reported around the ship at about 1715 |
| <p>Secure observations at sunset 1918</p> <p>2 flocks (12 birds) = searching</p> | | | | | |

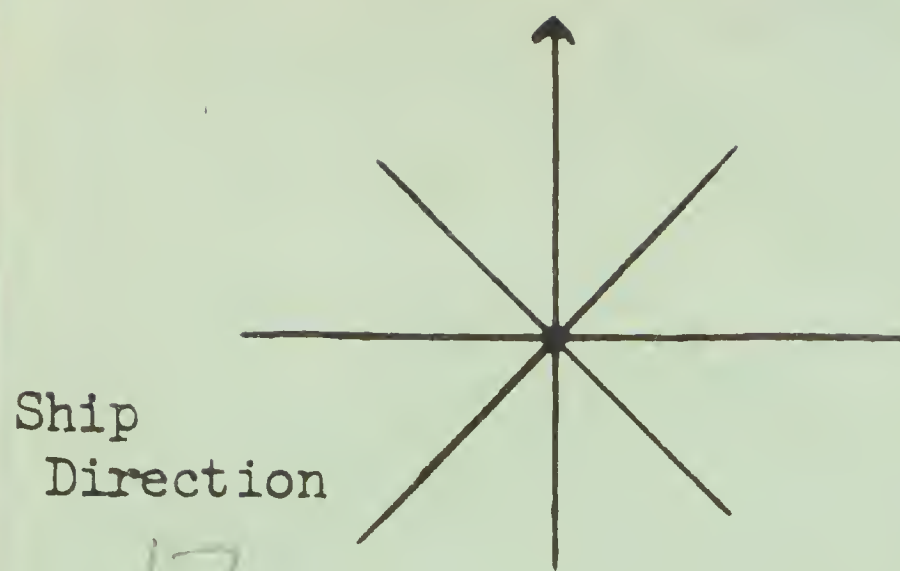


SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:
V. J. Gould

Date 21 June 1967
Pg. # 1

| TIME | SPECIES | # | DIR. | SPECIMEN or BAND NO. | REMARKS |
|------------------------------------|-----------------------------|---|------|----------------------------|---|
| begin observation ca. sunrise 0634 | | | | | |
| 0647 | Pterodroma | 1 | ↙ | | |
| 0647 | Storm Petrel | 1 | " | | |
| 0649 | Pterodroma | 1 | " | | |
| 0650 | Juan Fernandez Petrel | 1 | " | | |
| 0651 | Shear/Pet | 1 | " | | |
| 0657 | wedge-tail? Shearwater | 1 | " | | all dark, but could not see if bill was light or dark - flew like a wedge-tail |
| 0705 | Shear/Pet | 1 | ⊙ | | all dark but too far out to tell anything else about it |
| 0727 | Juan Fernandez Petrel | 1 | ↓ | | molt ing at least on wings |
| 0736 To 0750 | no obs. | | | | |
| 0800 | Juan Fernandez Petrel | 1 | ⊙ | | |
| 0800 | Small Pterodroma | 1 | ⊙ | | looked like a Black-winged Petrel |
| 0813 | wedge-tailed Shearwater | 1 | ← | | dark phase |
| 0824 | Shearwater | 1 | ← | | all dark possibly wedge tail |
| 0826 | Black- winged Petrel | 1 | ↖ | | |
| 0854 | Juan Fernandez Petrel | 1 | ⊙ | | molt ing at least in wings |
| 0900 | wedge-tailed Shearwater | 1 | ← | | searching - dark phase |
| 0933 | Juan Fernandez Petrel | 1 | ⊙ | | molt ing at least on wings |
| 0935 | wedge-tail Shearwater | 1 | ⊙ | | light phase |



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

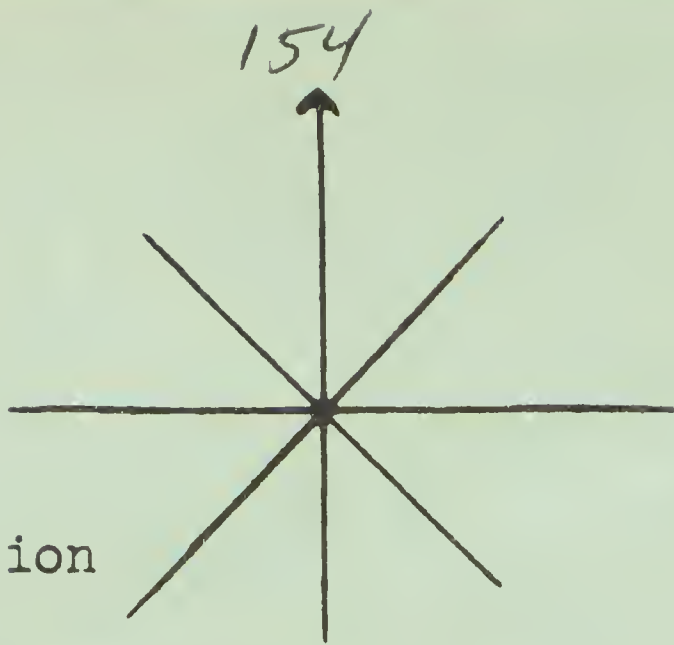
Pf Gould

Date *21 June 1967*
Pg. # *2*

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

| | | | | | | |
|------------------|--------------|-----------------------|---|-----------|--|--|
| | 0952 | Pterodrom | 1 | | | looked small |
| | 0957 | Shearwater | 1 | | | |
| | 0959 | Leach Petrel | 1 | ⊙ | | white below, looked like wedge-tail |
| | 1000 to | no obs. | | | | |
| | 1425 | | | | | at recording buoy oceanographic station |
| | 1425 | Red-tail Tropicbird | 1 | over ship | | a light phase Wedge-tail was seen while stopped (ca 1115) |
| rain squall area | 1529 | Shearwater | 1 | → | | (new ship heading 152°) |
| | 1530 | | | | | flies like Wedge-tail, flying in light rain just after we passed through heavy rain squall |
| | 1538 | Shearwater | 1 | | | |
| | 1553 | Shear/Pet | 1 | | | all dark, looked and flew like a Wedge-tail. |
| | 1554 | " | 1 | | | both were white bellied, white underwing with black border, both looked large size. both at edge of rain squall. |
| | 1600 to 1730 | no obs. | | | | |
| | | | | | | Oceanographic station |
| | 1730 | | | | | |
| | 1755 | } slow speed | | | | Plankton tow |
| | 1758 | Wedge-tail Shearwater | 2 | ⊙ | | both light phase |
| | 1806 | Black-wing Petrel | 1 | ↗ | | |
| | 1816 | Wedge-tail Shearwater | 1 | → | | light phase |



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Rf Gould

Date 21 June
Pg. # 3

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

1846 Wedg-tail Shearwater 1- E dark Phase

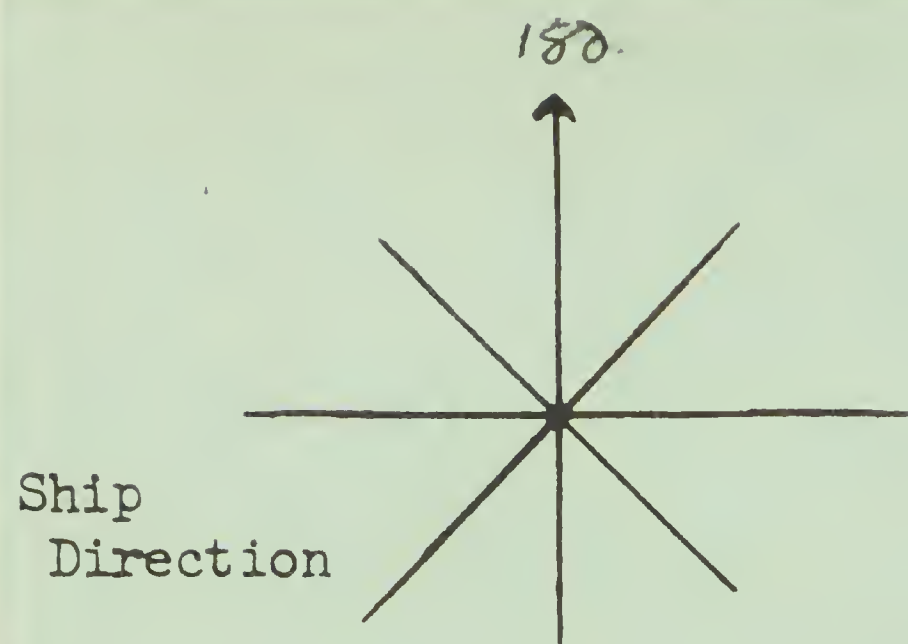
1914 Pterodroma 1- ↑ dark underwing border probably a black-wing Petrel

see observation
Sunset 1916

~~0634 - 0730~~
~~0750 - 1000~~
~~1425 - 1600~~
~~1230 - 1916~~

~~56~~
~~10~~
~~35~~
~~16~~
~~149~~
6.5

6.5 hours of observation



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. f. Gould

Date 22 June 1967
Pg. # 1

SPECIMEN

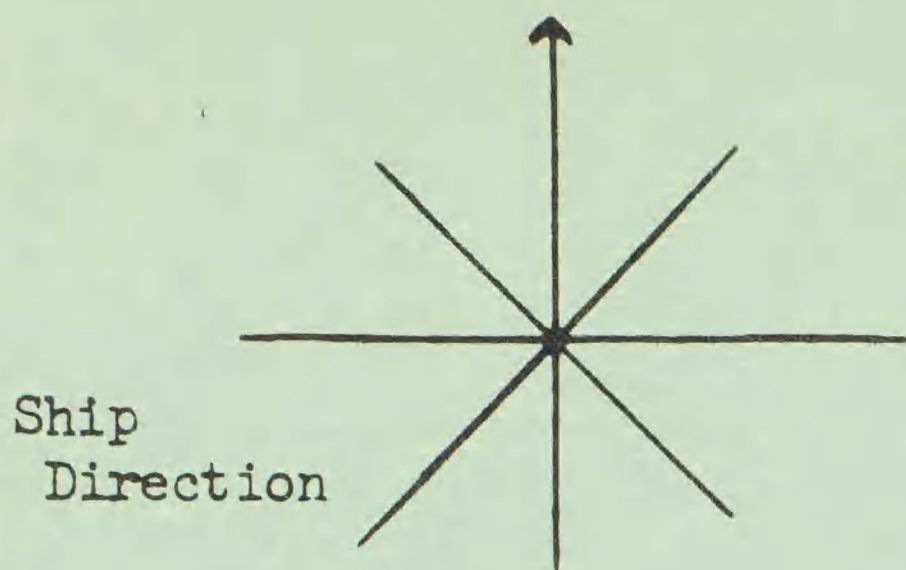
or

sunrise = 0638

TIME SPECIES # DIR. BAND NO. REMARKS

begin observations = 0635

| | | | | | |
|------|---------------------------|----|---|---|---|
| 0646 | Juan Fernandez Petrel | 1- | S | — | searching |
| 0653 | Tahiti/ Phoenix Pet. | 1- | W | — | some what smaller than J.F.P., flight slow without much arcing, at least did not arc very high, back appeared very dark brown but this may have been due to light conditions. looked very small headed. |
| 0712 | Shear/Pet | 1- | ⊙ | — | large, white below, undulating looked mostly white and back appeared grey, but flew like a shearwater then a petrel. |
| 0718 | Juan Fernandez Petrel | 2- | ⊙ | — | |
| 0722 | Wedge-tail? Shearwater | 1- | S | — | light phase - could have been a J.F.P. |
| 0724 | Juan Fernandez Petrel | 4- | S | — | searching |
| 0727 | " | 3- | S | — | searching |
| 0738 | " | 1- | ⊙ | — | |
| 0739 | Shear/Pet | 1- | E | — | |
| 0740 | Shear/Pet | 1- | E | — | all dark, undulating & head down. |
| 0745 | Wedge-tail | 1- | ⊙ | — | dark phase |
| 0748 | Juan Fernandez Petrel | 1- | ⊙ | — | |
| 0746 | Wedge-tail | 1- | ⊙ | — | dark phase |
| 0747 | Juan Fernandez Petrel | 1- | ⊙ | — | |
| 0748 | " | 1- | ⊙ | — | |
| 0750 | " | 1- | ⊙ | — | |
| 0755 | " | 1- | ⊙ | — | |
| 0758 | " | 1- | ⊙ | — | |
| 0800 | Wedge-tail Shear | 1- | E | — | dark phase |
| 0801 | Pterodroma | 1- | — | — | white belly dark undulating |
| 0802 | Juan Fernandez | 1- | E | — | |
| 0803 | Wedge-tail | 2- | E | — | dark phase |



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

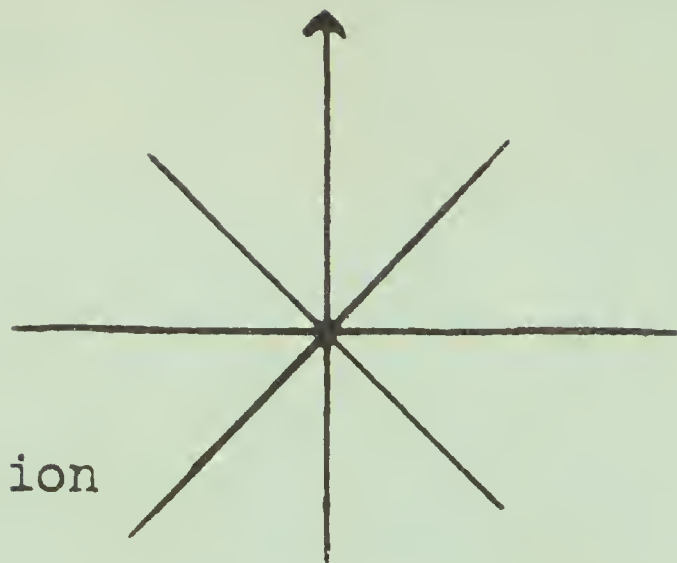
Date 22 June 1967
Pg. # 2

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

| | | | | | |
|------|------------------------|--------|-------|-------|--|
| 0805 | Juan Fernandez Petrel | 3- | E | _____ | molt |
| 0806 | Wedgetail | 1- | E | _____ | dark phase |
| 0807 | " | 1- | E | _____ | " " |
| 0807 | " | 1- | E | _____ | " " |
| 0808 | Juan Fernandez Petrel | 1- | ⊙ | _____ | molt |
| 0810 | Wedgetail | 2- | E | _____ | dark phase |
| 0813 | Juan Fernandez Petrel | 1- | ? | _____ | molt |
| 0814 | Wedge-tail | 1- | SE | _____ | dark phase |
| 0817 | " " | 1- | _____ | _____ | " " |
| 0818 | Juan Fernandez Petrel | 1- | _____ | _____ | along side ship - molting |
| 0820 | Shear/Pet | 2- | _____ | _____ | |
| 0821 | Shear/Pet | 2- | _____ | _____ | |
| 0823 | Shear/Pet | 1- | _____ | _____ | |
| 0825 | Juan Fernandez Petrel | 1- | _____ | _____ | |
| 0830 | Flock | | | | |
| | Juan Fernandez Petrel | 15 ± 3 | ⊙ | _____ | searching but no active feeding observed |
| | Wedge-tail | 10 ± 3 | _____ | _____ | dark phase |
| 0834 | Wedge-tail | 1- | ⊙ | _____ | dark phase |
| 0837 | " " | 5- | ⊙ | _____ | dark phase |
| 0842 | Juan Fernandez Petrel | 1- | S+SE | _____ | molt |
| 0844 | Wedgetail | 1- | S | _____ | dark phase |
| 0848 | Small Pterodroma | 1- | NW | _____ | |
| 0850 | Pterodroma | 1- | NE | _____ | white below, grey above |
| 0851 | Juan Fernandez Petrel? | 1- | E | _____ | |
| 0851 | " | 1- | E | _____ | |

Ship
Direction



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. J. Gould

Date 22 June 1967
Pg. # 3

SPECIMEN
or

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|--------------------|--------------------------------|--------|---------------------|-------------|--|
| 0900 to 0905 | Flock | | | | |
| | Juan Fernandez Petrel | 15 ± 2 | ☉ | | |
| | Red-tailed Tropicbird | 1- | | | |
| 0909 | Stomach Petrel | 1- | | | |
| 0910 | Juan Fernandez Petrel | 1- | E | | Tropicbird was chased and harassed high into the air for several minutes by a J. F. P. |
| 0922 | " | 1- | E | | |
| 0928 | Wedge-tail | 1- | E | | |
| 0932 | Juan Fernandez Petrel | 1- | E | dark phase | |
| 0933 | " | 1- | E | molt | |
| 0934 | " | 1- | E | " | |
| 0936 | " | 1- | ☉ | " | |
| 0946 | " | 1- | ☉ | " | |
| 0947 | " | 1- | E | " | |
| 1002 | Shear/Pet | 1- | S | white below | |
| 1005 to 1015 | Flock Wedge-tail Shearwater | 9- | on H ₂ O | | |
| | White-neck Petrel | 1- | | | |
| | Pterodroma | 1- | | | |
| 1020 | Black-wing Petrel | 1- | on H ₂ O | | |
| 1030 | BULWERS PETREL | 1- | NE | | |
| 1031 to 1330 | NO OBS. | | | | |
| | | | | | Station 11 |

Tropicbird part of searching or feeding flock
Tropicbird was chased and harassed high into the air for several minutes by a J. F. P.

white below and about head - grey dorsally, especially on wings and part of back, ~~seen for only a few seconds~~, but was gliding, all the time in view, may have been white faced Storm Petrel grey on dorsal surface appeared patchy as if bird was molting. Tail appeared rather short, bird seemed chunky, but this may have been due to angle of vision may not have been part of flock -

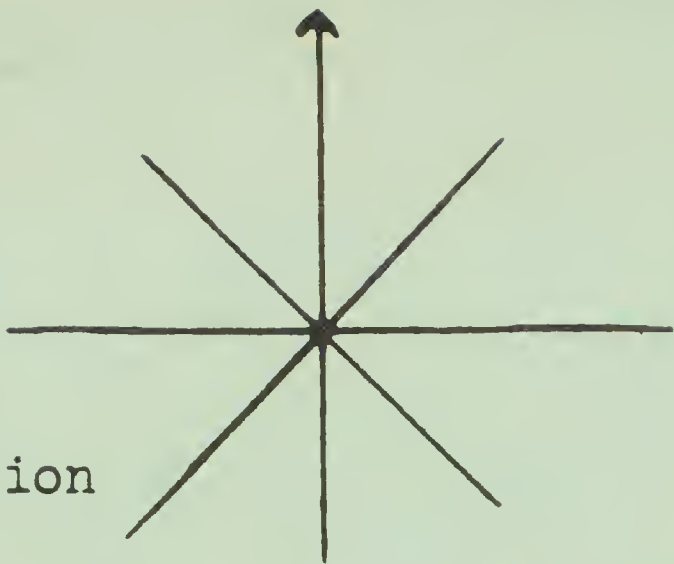
Dark Phase

well seen, ~~had~~ white color, dark head, fuzzy under wing border -

glided by ship

few right under bow + spread tail - tail long + wedge shaped, light brown bars on wings not doubt at all about identification.

Ship
Direction



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. J. Gould

Date 22 June 1967
Pg. # 4

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

1336 *fronternally* 1- *NADE*
Petrel

1402 " 1-

1403 *Wedge-tail* 1- E DARK PHASE

1419 " " 1- E DARK PHASE

1423 " " 1- E DARK PHASE

1445' *Flock*
Wedge-tail 100±25 NE *Feeding +*
shearwater *searching - all dark phase*

1452 *fronternally* 1- on
Petrel H₂O *molting*

1510 " 3- on

1514 " 2- H₂O *molting tail + wing - flushed by ship*

1505 *Dark* 2- *molting*
shearwater

seen by Mrs. Lowe - Probably Wedge-tails.

1530 *fronternally* 4- 5 *molting*
Petrel

1551 " 1- *molting*

1600 *Ship stopped*
to *for ca 20*
1700 min.

1705 *Wedge-tail* 1- E *Dark phase*

1709 *Shearwater* 1- *molting*

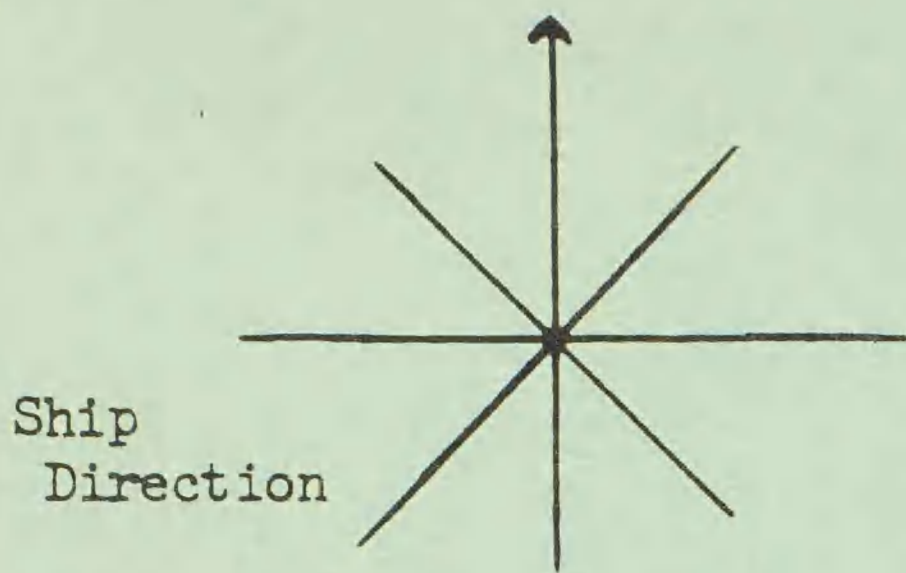
1710 *Wedge-tail* 1- E *Dark phase*

1710 *fronternally* 1- *molting*
Petrel

1710 *Black Storm* 1- *molting*
Petrel

1716 *fronternally* 2- E *molting*
Petrel

1730 *Wedge-tail* 1- *Dark phase*
shearwater



Ship
Direction

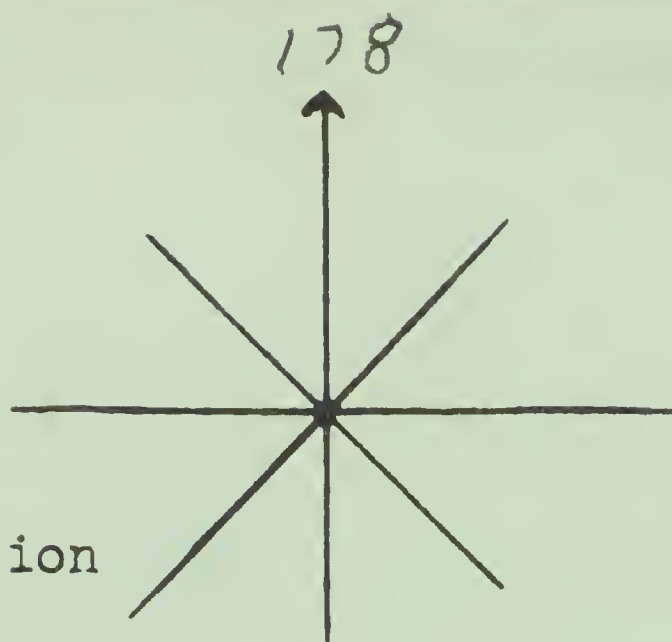
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS: J. J. Gould

Date 22 June
Pg. # 5

SPECIMEN
or

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|---|-----------------------|--------|---------------------|----------|-------------------------------------|
| 1742 | Wedge-tail Shearwater | 4- | E | | dark phase |
| 1752 | Shear/Pet | 1- | ? | | |
| 1800 | " " | 1- | W | | |
| 1815 | White-rack Petrel | 1- | on H ₂ O | | flushed by ship |
| 1817 | Pearl Shearwater | 1- | © | | |
| 1817 | Leach Petrel | 1- | W | | |
| 1825 | Shear/Pet | 1- | | | |
| 1830 | Flock | | | | |
| | P. externus | 35 ± 5 | | | feeding + searching |
| | Shear/Pet | 10 ± 3 | | | Tuna school - 1 yellow tail caught. |
| 1835 stop for Sea Bouy & Plankton Station | | | | | |
| Secure Observations. | | | | | |
| 6 Flocks (201 birds) | | | | | |
| 3 searching + feed | | | | | |
| 2 search | | | | | |
| 1 on H ₂ O | | | | | |



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

1 of Gould

Date 23 June 1967
Pg. # 1

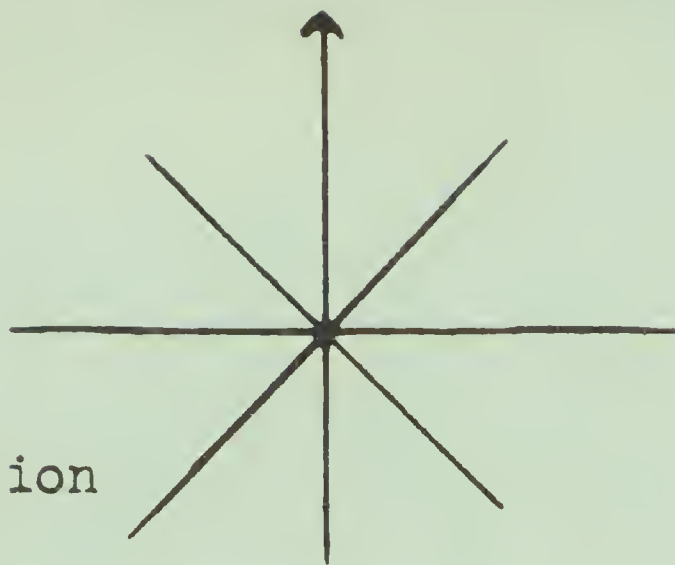
SPECIMEN
or

sunrise 0643

TIME SPECIES # DIR. BAND NO. REMARKS begin observations 0646

| | | | | | | |
|------|------------------------|--------|-----|--|--|--|
| 0651 | Shear/Pet | 1 | N | | | Very windy + rough, completely overcast with clouds, difficult observation. |
| 0655 | Leach's Petrel | 1 | ⊙ | | | |
| 0705 | " | 1 | SW | | | |
| 0705 | Wedge-tail | 1 | SW | | | heading for 0708 flock |
| 0708 | Feeding | | | | | DARK PHASE heading for 0708 flock |
| 0714 | Searching Flock | | | | | |
| | Wedge-tail | 10 | | | | DARK PHASE |
| | Leach's Petrel | 10 | | | | |
| | Shear/Pet | 20 ± 5 | | | | |
| 0716 | Leach's Petrel | 1 | WDS | | | |
| 0718 | Wedge-tail Shearwater | 1 | SW | | | DARK PHASE |
| 0720 | Leach's Petrel | 3 | ⊙ | | | |
| 0721 | Wedge-tail Shear | 1 | E | | | |
| 0723 | Phoenix/Tobin's Petrel | 1 | W | | | poor light but looked browner than other bird I saw and smaller with possibly a white fleck in mid line of under wing. |
| 0727 | Shear/Pet | 1 | W | | | |
| 0731 | Wedge-tail? Shearwater | 2 | | | | all Dark |
| | Small Pterodroma | 1 | E | | | |
| 0732 | Leach's Petrel | 1 | W | | | |
| 0735 | " | 1 | E | | | |
| 0736 | " | 1 | E | | | |
| 0745 | NO | | | | | ship shifted from 0800 to 0815 for station type MC, "ST-D" |
| 0815 | Observations | | | | | |

Ship
Direction



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

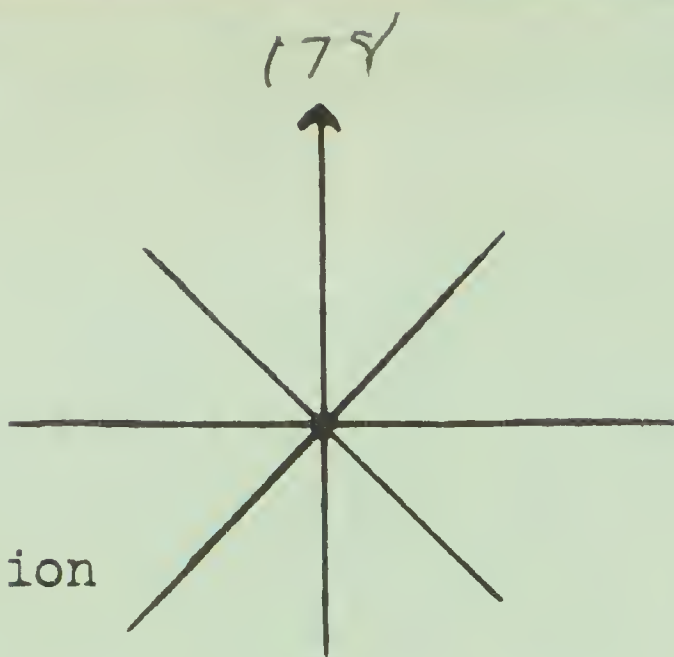
OBSERVERS:

P. J. Gould

Date *23 June 1967*
Pg. # *2*

SPECIMEN
or

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|------|-----------------------|----------|---------------------|----------|---|
| 0815 | Juan Fernandez Petrel | 1 | ☉ | | moltin _g |
| 0823 | Shear/Pet | 1 | W | | |
| 0832 | Juan Fernandez Petrel | 1 | W | | moltin _g |
| 0835 | FLOCK | | | | |
| 0845 | Wedge-tail | 300 ± 50 | | | at least half of the birds were sitting on the water, the rest were flying lazily about as if flushed ^{by} the ship. at least one of the wedge-tails was molting in the primaries |
| | Juan Fernandez Petrel | 100 ± 25 | | | |
| 0850 | Juan Fernandez Petrel | 2 | NE | | moltin _g |
| 0852 | " | 1 | W | | " |
| 0857 | Black-wing Petrel | 1 | NE | | |
| 0903 | Juan Fernandez Petrel | 1 | E | | moltin _g |
| 0908 | " | 1 | W | | " |
| 0908 | Wedge-tail Shearwater | 1 | NE | | light phase |
| 0910 | Juan Fernandez Petrel | 1 | NE | | moltin _g |
| 0915 | " | 1 | S | | " |
| 0921 | " | 1 | E | | " |
| 0922 | " | 1 | on H ₂ O | | |
| 0922 | Wedge-tail Shearwater | 2 | S | | Dark phase |
| 0924 | Shear/Pet | 1 | E | | |
| 0928 | Terns | 5 | SE | | looked like the right size, shape, & flight for Sooty Terns, once below horizon I could make out white below & dark above, rest of the tern they were sure without |
| 0938 | Juan Fernandez Petrel | 1 | SE | | |
| 0938 | Shear/Pet | 1 | | | |



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 23 June 1967
Pg. # 3

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

| | | | | | |
|------|-------------------|-----|------------------|--|---------------------------------------|
| 0941 | juv. Fairy Petrel | 1 - | E | | molting |
| 0943 | " | 1 - | SE | | " |
| 0944 | " | 5 - | m | | " |
| 0945 | " | 1 - | H ₂ O | | flushed by ship |
| 0946 | " | 2 - | ⊙ | | " |
| 0948 | Wedge-tail Shear | 2 | m | | DARK PHASE |
| | juv. Fairy Pet | 1 | H ₂ O | | molting |
| 0949 | juv. Fairy Petrel | 2 - | ⊙ | | molting |
| 1000 | " | 1 - | E | | " |
| 1009 | " | 1 - | m | | " |
| 1018 | " | 1 - | H ₂ O | | molting - flushed by ship. |
| 1023 | " | 1 - | E | | molting |
| 1027 | " | 3 - | ⊙ | | " |
| 1029 | " | 1 - | H ₂ O | | " , flushed by ship |
| | | | E | | " |

1030

no
Observation

ship stopped for Oceanographic station

1305

under way at full speed.

1312

Wedge-tail Shearwater

4 -

m
H₂O

dark phase, at least 2 molting on wings - flushed by ship.

1327

juv. Fairy Petrel

3 -

ms

all molting

1336

Leach Petrel

1 -

msE

1348

juv. Fairy Petrel

1 -

m
H₂O

molting, flushed by ship.

1354

Wedge-tail Shearwater

1 -

msE

dark phase

1355

Leach Petrel

1 -

ms

1400

Wedge-tail

1 -

ms

dark phase

1400

"

1 -

ms

" "

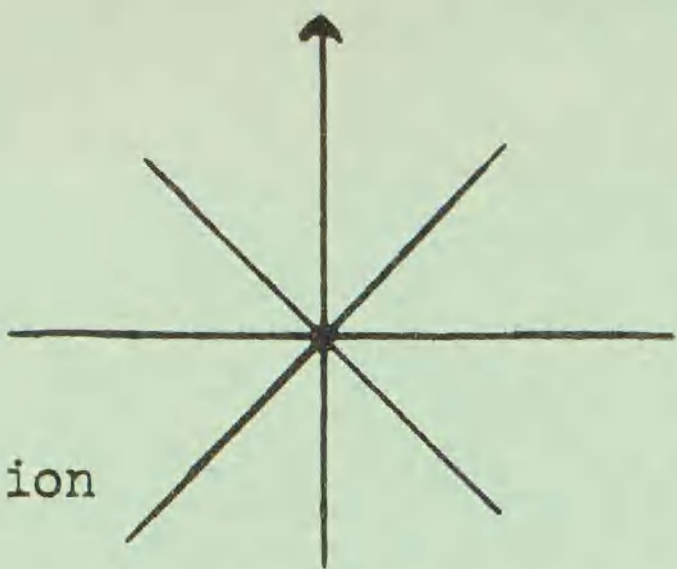
1400

juv. Fairy Petrel

1 -

ms

molting



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. Gould

Date 23 Jan 1967
Pg. # 4

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

1405
to
1430

no
observed.

Stopped for STD station
no birds present while stopped.

1450

Juan Fernandez
Petrel

1 -

W

molting

1452

"

2 -

W

molting, probably flushed off H₂O by ship

1600

no

to

1755

Observed.

Oceanographic station

1755
to
1820
not Towed
observed

1824

Juan Fernandez
Petrel

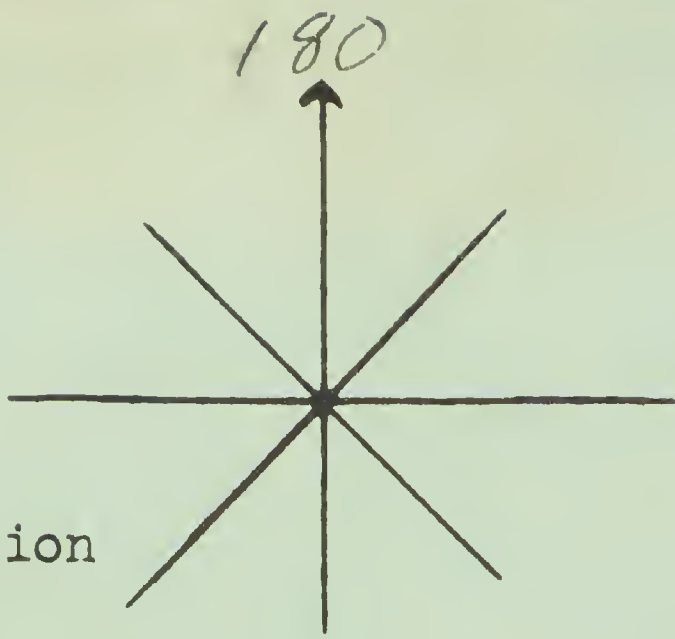
1 -

SW

molting

sun set ca 1910

Secure Observations 1915



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. J. Gould

SPECIMEN
or

sunrise 0648

Date 24 June 1967
Pg. # 1

TIME SPECIES # DIR. BAND NO. REMARKS begin observation 0645

0730

To

NO

0745

Obs.

BREAK
FAST

0800

To

NO

0830

Obs.

oceanographic station
Ship stopped.

at 0930 Mike Roll observed a bird
flying fast and erratic which was
smaller than a Leach Petrel, white below,
and brown above. He said it wasn't
a flying fish because it stayed airborne
too long (until out of sight).

1030

NO

1245

Obs.

Ship stopped for plankton samples

1304

Wedge-tail

1

on
H₂O

1245 - ~~stop~~ ship moving at slow speed
for plankton tow
light phase

1307 - Resume full speed

1410

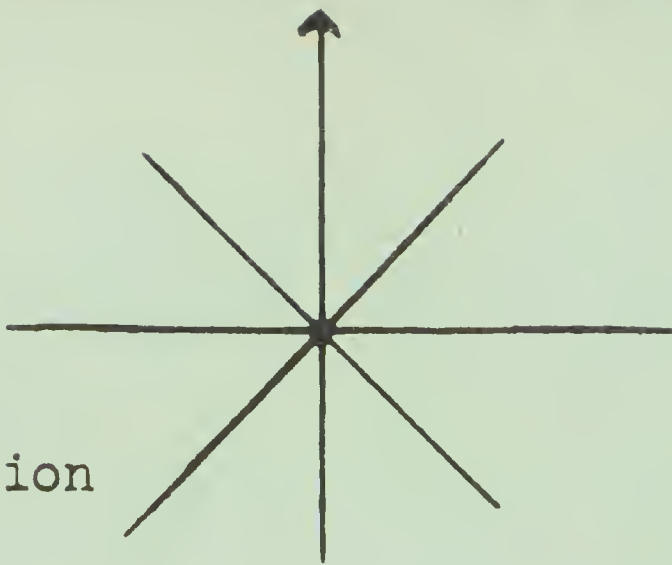
NO

To

Obs.

1430

Ship stopped for STD



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

pf Gould

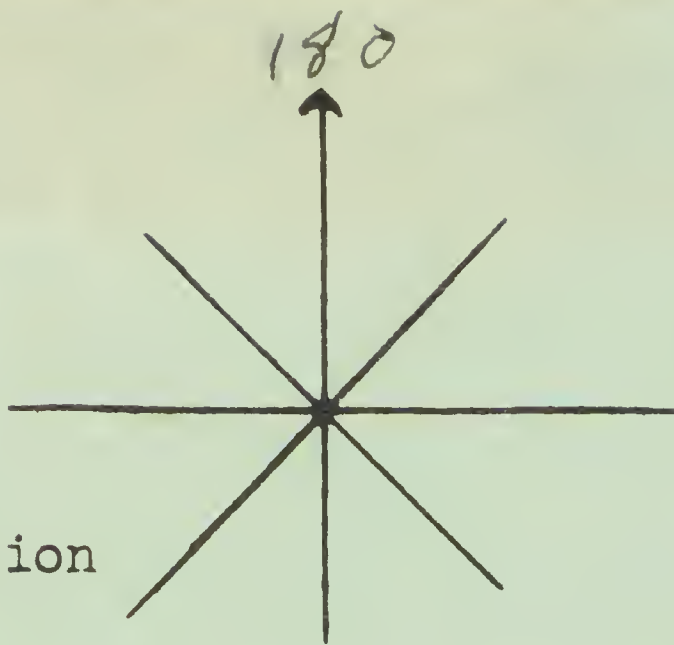
Date 24 June 1967
Pg. # 2

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

| | | | | | |
|--------------------|---|---|---|--|---|
| 1600 | | | | | |
| 1600 to 1742 | no obs. | | | | Stopped for Oceanographic Station |
| 1845 | Wilson's Storm Petrel ^{Ellis?} | 1 | W | | 1845 close range, flight distinctive, size definitely smaller than Leach's. Close observations ca sunset 1902 1902 |

Ship
Direction



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. J. Gould

Date 25 June
Pg. # 1 1967

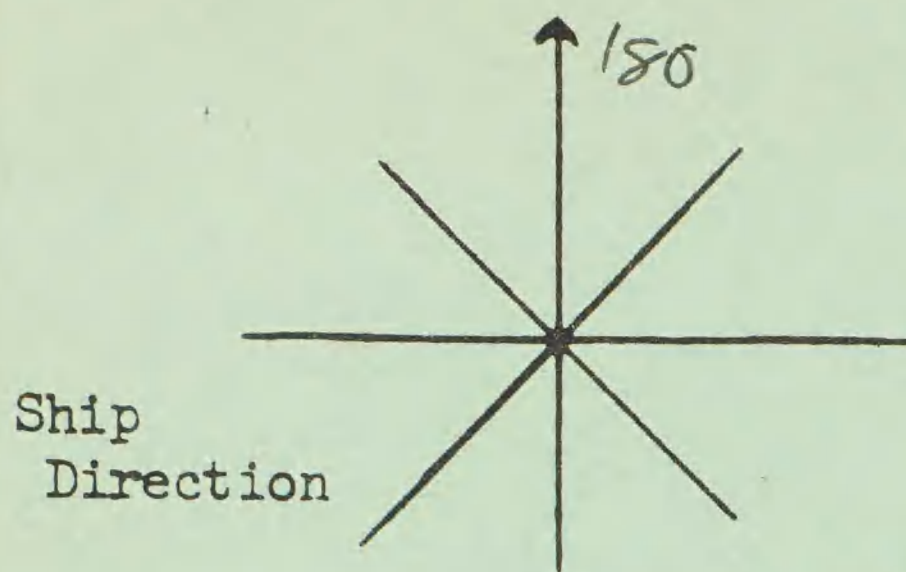
SPECIMEN
or

sunrise 0653

begin observation

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|--------------------|----------------------------|---------------|------------------------|----------|---|
| 0715 | Blackwing Petrel | 1 | NE | | |
| 0748 to 0831 | no * 065. | see note → | | | ship stopped for STD station at 0800 |
| 0841 | Wedge-tail? shearwater | 1 | ? | | ship resume speed at 0831 light phase |
| 1030 to 1230 | no 065. | | | | ship stopped for Oceanographic Station |
| | | | | | ca. 1230 begin Slow plankton Tow 1255 - half speed for another net tow 1342 resume full speed. |
| 1400 to 1500 | no obs. | | | | ship stopped for equator crossing ceremony - |
| 1509 | Harcourt's Storm Petrel | 1 | N | | traveling |
| 1515 | Jaeger Family Petrel | 1 | ⊙ | | probably flushed from water no apparent molt |
| 1546 | " | 1 | on H ₂ O | | no apparent molt |

at 0823 a white -
rumped storm petrel flew
around ship - flight
lighter than Leach's with
less soaring, wing beat
more constant and somewhat
deeper than Leach's. Rump
patch very broad, sharply demarcated
without trace of brownish -
it appeared to extend farther
out toward end of tail
than does Leach's -
Definite Harcourt's
Storm Petrel
Flight much more
Leach's like than
Oceanites like.



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

1/2/67

Date 26 June 1967
Pg. # 2

SPECIMEN

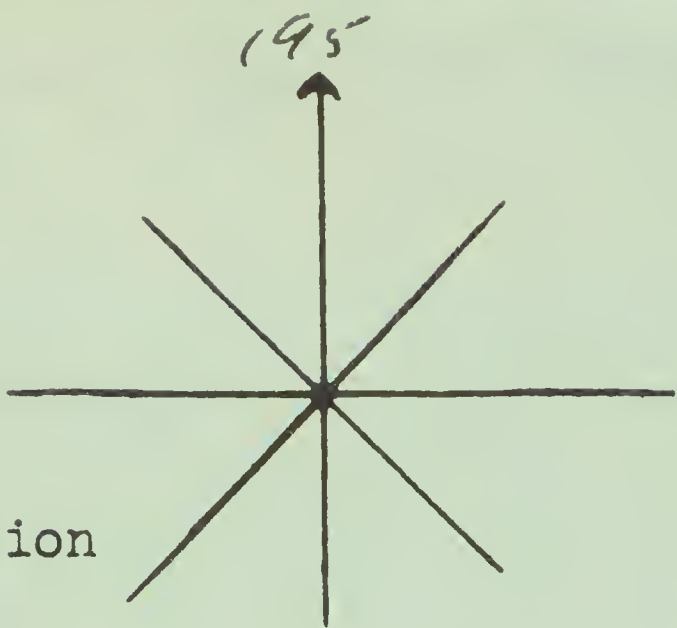
or

DIR. BAND NO. REMARKS

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|--------------------|---------------------------------------|---|------------------------|----------|---|
| 1558 | Pterodroma | 1 | S | | |
| 1600 to 1735 | no obs. | | | | Stopped for Oceanographic Station juv. Townsend's Petrel flying around ship at ca 1610 no apparent molt |
| 1753 | Juan Fernandez Petrel | 1 | on H ₂ O | | flushed by ship - no apparent molt |
| 1802 | " | 1 | S | | molted |
| 1805 | Cook's/ or White-wing Petrel | 1 | S | | molted - small Cook's Petrel with an all white appearing underwing - bill to do last to be sure |
| 1807 | Pterodroma | 1 | S | | |
| 1818 | Wilson's/ Elliot's Storm Petrel | 1 | W | | - saw legs trailing behind tail - flight distinct from Cook's or Leucorhoa |
| 1844 | Juan Fernandez Petrel | 1 | ⊙ | | |

Secured watch
at sunset ca 1856

Ship
Direction



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

H. J. Gould

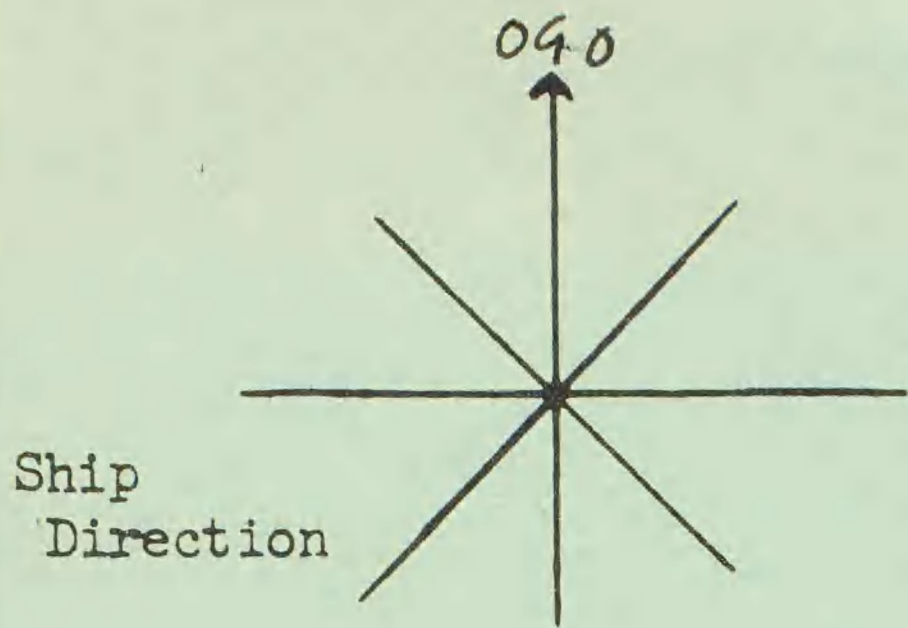
SPECIMEN
or

sunrise = 0658

Date 26 June 1967
Pg. # 1

observation began = 0655

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|------------|--|---|-----------------------|----------|---|
| | | | | | [Pterodroma a crowd light at 0510 probably fainter than] |
| 0718 | faint Pterodroma Petrel | 1 | ☉ | | no molt - old plumage - looked like a white-neck because of worn plumage |
| 0723 | " | 1 | ☉ | | |
| 0737 | " | 1 | ☉ | | this bird, however, did not have a molt white neck band probably flushed from H ₂ O as had the previous bird. probably flushed from H ₂ O, no molt apparent |
| 0750 To | NO | | | | Break fast + oceanographic station |
| 0823 | Obs. | | | | 1 Pterodroma was flying around ship while it was stopped. |
| 0856 | faint Pterodroma detrit | 1 | S | | |
| 0940 | Pterodroma Pterodroma Pterodroma Pterodroma | 1 | SW | | looked small, Cook's on white-winged? |
| 0946 | faint Pterodroma Petrel | 1 | ☉ H ₂ O | | flushed from water, molting |
| 0946 | " | 1 | " | | " " " , no molt |
| 0955 | white-winged/ or Cook's Petrel | 1 | ☉ H ₂ O | | no noticeable black underwing border - had appeared black, but light was bad. |
| 1018 | Pterodroma | 1 | ☉ H ₂ O | | flushed by ship at distance ca 1000+ yards. |
| 1021 | Cook's / or white wing Petrel | 1 | ☉ H ₂ O | | thin black anterior border to all white underwing, back of head looked very black |
| 1024 | Pterodroma | 1 | ☉ H ₂ O | | flushed in distance by ship |
| 1030 To | NO | | | | |
| 1330 | Obs. | | | | oceanographic station |



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

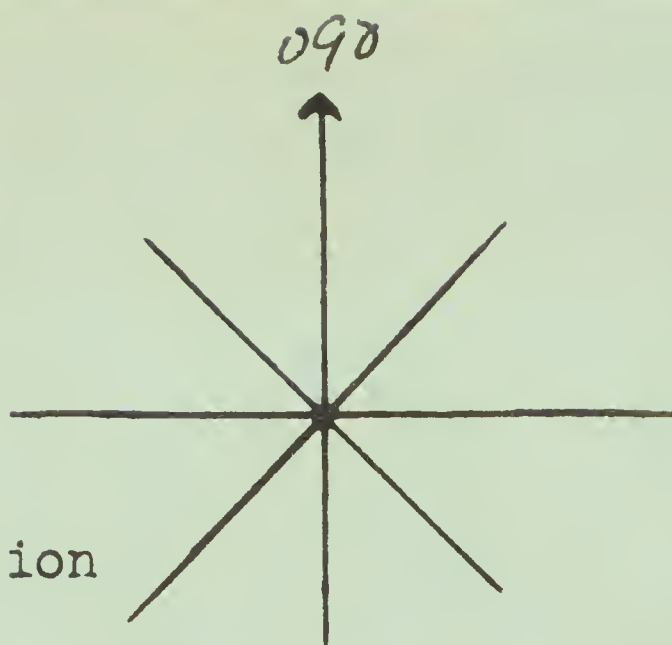
OBSERVERS:

V. J. Gould

SPECIMEN or
Heading 090 at 1305

Date 26 June 1967
Pg. # 2

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|---|--------------------|---|---------|----------|--|
| 1348 | Cook's Petrel | 1 | on ship | | flushed by ship. Underway with very thin black border, head, neck + back concealed |
| 1405 | Shear/Pet | 1 | | | reported off tail by Mike Rall |
| 1525 | Lesser Frigatebird | 1 | ☉ | | normal appearance. |
| 1534 | Small Pterodroma | 1 | N | | |
| Secure observation 1550 | | | | | |
| Mike Rall reported two tropicbirds flying over ship at 1835 | | | | | |



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. Gould

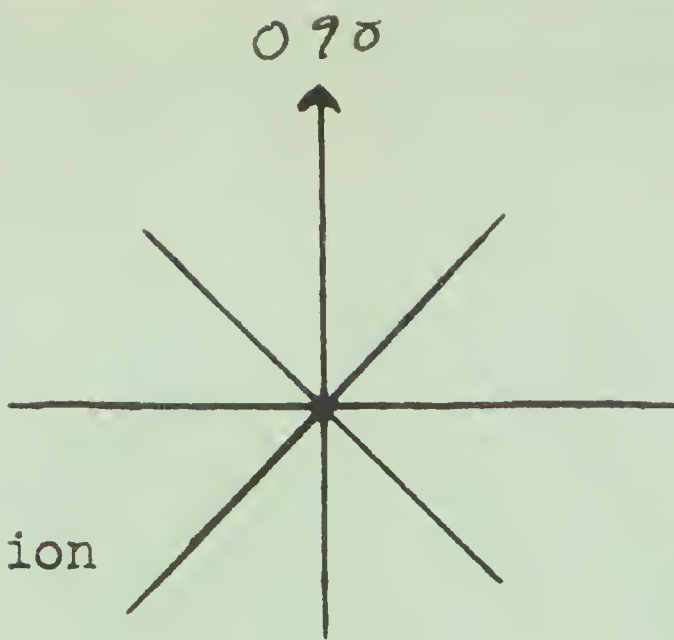
Date 27 June, 1967
Pg. # 1

SPECIMEN
or

sunrise 0650

begin observations 0650

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|--------------------|--|-------|------------------|--------------|--|
| 0653 | White-throated Storm Petrel Storm Petrel | 1 | ☉ | | looked size of Leach Petrel |
| 0701 | Juan Fernandez Petrel | 1 | ☉ | no molt | had a lot of white below, but seemed to have black border to underwing - light foot, bird rather far away and sea very rough - 1106 - afternoon, seen white-throated Storm Petrel from sun that that is what this bird was |
| 0730 | " | 1 | ☉ | " " | |
| 0740 TO 0810 | NO Obs. | | | | |
| 0814 | Pterodroma | 1 | RE | | |
| 0827 to 0831 | Flock | | | | searching, but no active feeding |
| 0831 | Fairy Tern | 1 | | | |
| | Collared Petrel | 2 | | | black head & shoulders, grey back, large amount of black under wings, but most of stomach white. good view. |
| | Wedge-tail Shearwater | 2 | | light phase | (one small (chick size) & all dark) |
| | Shear/Pet | 4 ± 1 | | | |
| 0856 | Pterodroma | 1 | NE | | looked like small Cook's Petrel with all white underwing |
| 0901 | SKUA ? | 1 | SE | | appeared somewhat lighter below than above, underparts either light brown or dirty white, but light is bad, thought I saw white patches in wing, bird flying with constant wing beats (no gliding) large size, but too far away, and boat bouncing too bad to be sure. |
| 0914 | Juan Fernandez Petrel | 1 | NE | no molt | |
| 1014 | Juan Fernandez Petrel | 1 | NE | 020? plumage | |
| | | | H ₂ O | no molt | |
| 1046 | White-throated Storm Petrel | 1 | ☉ | | excellent view - behavior distinctive |
| 1102 | White-throated Storm Petrel | 1 | ☉ | | this is the same bird |
| 1102 | Juan Fernandez Petrel | 1 | ☉ | | this bird only kicked off the water a couple of times, otherwise he flew somewhat like a Leach Petrel |
| 1105 | Small Pterodroma | 1 | NE | | in sun |



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

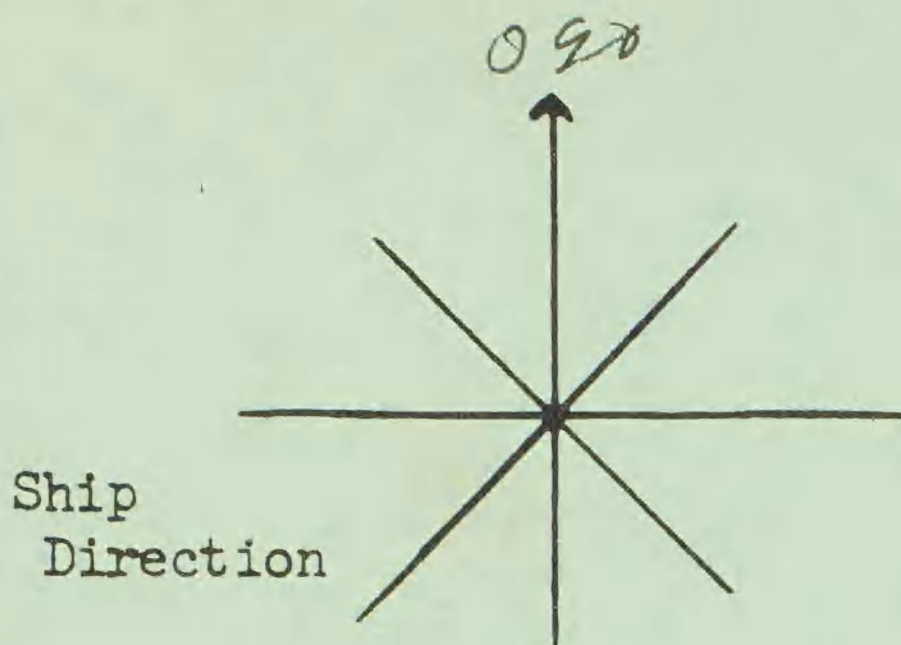
OBSERVERS:

P. Gould

Date 27 June 1967
Pg. # 2

SPECIMEN
or

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|--------------------|---|-------------|-------------|----------|--|
| 1108 | from Family Petrel | 1 | ☉ | | |
| 1110 to 1345 | no obs. | | | | wind & seas very rough, difficult to stand on deck |
| 1402 | from Family Petrel | 1 | on 4th | | no molt. |
| 1405 | " | 1 | ☉ | | " " |
| 1405 | " | 1 | ☉ | | " " |
| 1410 | Small Pterodroma | 1 | N | | |
| 1411 | from Family Petrel | 1 | ☉ | | no molt |
| 1414 | white-winged Petrel | 1 | SW | | black head, thin black border to underwing? |
| 1418 | red-tailed Tropicbird | 1 | over sky | | looked brownish color [1416 = turtle with 3 reddish ridge down back] |
| 1428 | white-throated Storm Petrel | 1 | NE | | subadult - black flecking over back, no black in wing, dark rather short & white. kicked off water twice, rest of tail sailing in strong wind low over H ₂ O |
| 1435 | white-winged Petrel | 1 | ☉ | | black head, thin black underwing lining? molting |
| 1447 | " " | 1 | ☉ | | " " " " " " " ? molting |
| 1452 | Small Pterodroma | 1 | N | | |
| 1453 | " " | 1 | N | | |
| 1454 | " " | 1 | N | | |
| 1514 | white-winged Petrel | 1 | SW | | |
| 1541 | from Family Petrel | 1 | N | | |
| 1545 to 1549 | Flock from Family Petrel Fairy Tern white-winged Petrel | 1 2 2 | | | searching but not closely knit no molt |



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Agrell

Date *27 June 1967*
Pg. # *3*

SPECIMEN

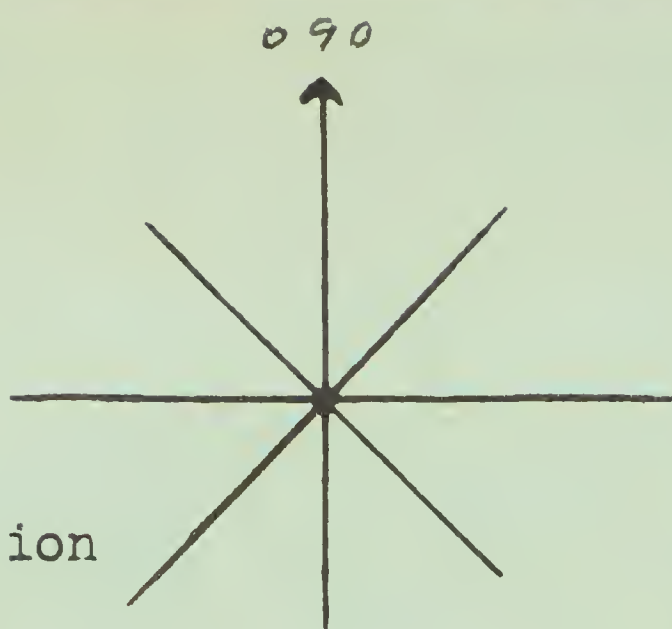
or

DIR. BAND NO. REMARKS

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|-------------------------|----------------------------|---|------|----------|--|
| 1551 | <i>White-winged Petrel</i> | 1 | ☉ | | <i>This bird had a lot of black on head + possibly shoulders, also much black border to underwing.</i> |
| 1552 1552 | <i>Small Pterodroma</i> | 1 | ☉ | | |
| 1610 to 1726 | <i>NO OBS.</i> | | | | |
| 1726 | <i>Pterodroma</i> | 1 | ☉ | | |
| 1741 | " " | 1 | N | | |
| 1805 | <i>White-winged Petrel</i> | 1 | N | | |
| 1806 | <i>Small Pterodroma</i> | 1 | N | | |
| 1808 | " " | 1 | N | | |
| 1808 | " " | 1 | N | | |
| 1809 | " " | 1 | N | | |
| 1814 | <i>White-winged Petrel</i> | 1 | S | | |
| 1820 | <i>Leach's Petrel</i> | 1 | ☉ | | <i>no molt</i> |

watch ceased at sunset 1843

Ship
Direction



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Pf Gould

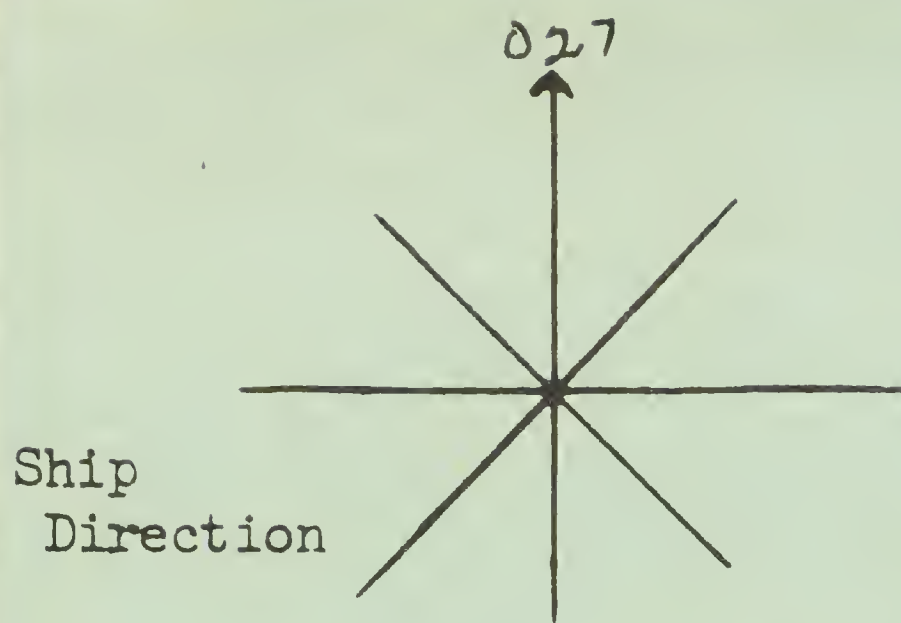
SPECIMEN
or

sunrise 0633

Date 28 June 1967
Pg. # 1

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|--------------|---------------------|---|--------------------|----------|---|
| | | | | | observations begin |
| 0725 | white-winged Petrel | 1 | on W ₂₀ | | difficult black head & grey back, black underwing border difficult, but not as extensive as in black-winged. |
| 0736 | Small Pterodroma | 1 | S | | |
| 0738 | Leach's Petrel | 1 | S | | |
| 0740 | Pterodroma | 1 | S | | in distance but had dark underwings |
| 0745 | Leach's Petrel | 1 | ⊙ | | and white bellie no molt |
| 0746 to 0758 | NO obs. | | | | |
| 0810 | Leach's Petrel | 1 | ⊙ | | |
| 0814 | Small Pterodroma | 1 | W ₂₅ | | white below, black border to underwing |
| 0818 | Leach's Petrel | 1 | W ₂₅ | | no molt |
| 0826 | Small Pterodroma | 1 | SW | | |
| 0836 | white-wing Petrel | 1 | SW | | black cap & black underwing border, molting |
| 0840 | Small Pterodroma | 5 | on W ₂₀ | | flushed in distance by ship |
| 0914 | Leach's Petrel | 1 | NE | | no molt |
| 0916 | white-wing Petrel | 1 | S | | black head, black border to underwing but grey back, black of head extends down only to neck and sides of neck & head |
| 0921 | " " | 1 | N | | no molt |
| 1034 | Leach's Petrel | 1 | ⊙ | | not black middle of colored Pet molt in wings |





SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

J. Gould

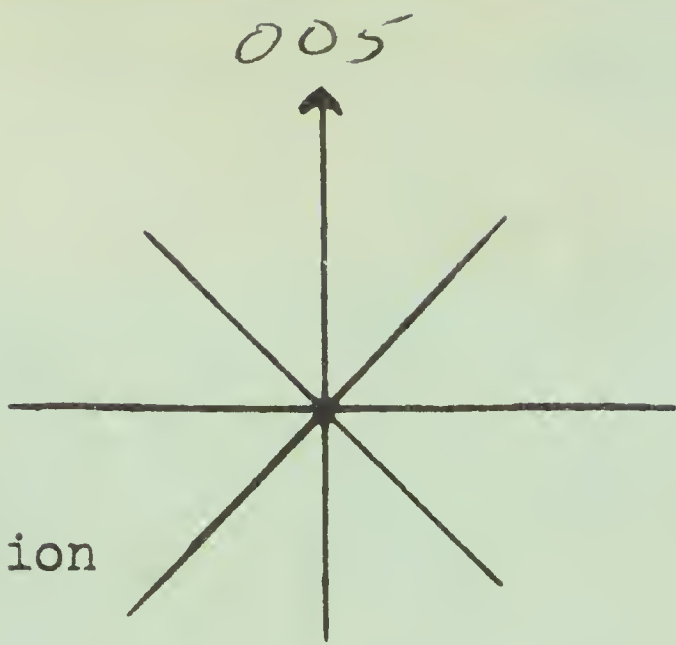
Date *28 June 1967*
Pg. # *2*

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

| | | | | | | |
|--------------------|--------------------------------|-----|---|--|--|---|
| 1035 to 1430 | no obs. | | | | | oceanographic 1035 to 1405 station underway at 1405 heading 027 |
| 1448 | Small Pterodroma | 1 - | W | | | white below |
| 1457 | white-wing Petrel | 4 - | ⊙ | | | on H ₂ O? or feeding? |
| 1511 | " | 1 - | ⊙ | | | molting |
| 1549 | " | 1 - | N | | | |
| 1558 | Small Pterodroma | 3 - | N | | | probably flushed from H ₂ O by ship |
| 1600 | White wing Petrel | 1 - | N | | | quite noticeable black underwing border |
| 1600 to 1725 | NO Obs. | | | | | oceanographic station. |
| 1758 | White-wing Petrel | 2 - | ⊙ | | | 1725 slow speed for net tow |
| 1819 | " | 4 - | ⊙ | | | 1740 full speed - Probable on H ₂ O + flushed by ship |
| 1824 | White-throated Storm Petrel | 1 - | ⊙ | | | molting - typical Kiting behavior - well seen |

Severe waves
at Sumatra 1830



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. J. Gould

SPECIMEN
or

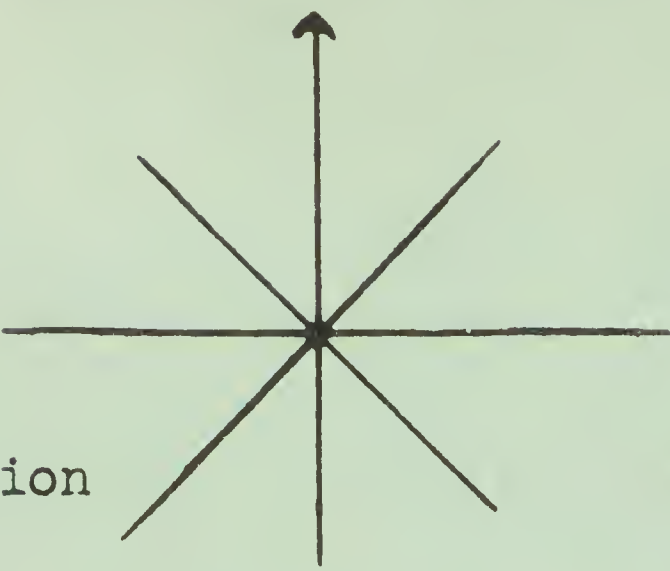
Series 20627

Date 29 June, 1967
Pg. # 1

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|------|---------------------------|---|---------------------|----------|--|
| | | | | | <u>begin observations - 0625</u> |
| 0638 | Juan Fernandez Petrel | 1 | @ | | no molt |
| 0727 | " | 1 | S | | distant |
| 0727 | " | 1 | S | | very distant |
| 0737 | Pterodroma | 1 | N | | |
| 0750 | NO | | | | |
| TO | | | | | |
| 0820 | Obs. Saw. | | | | |
| 0837 | Small Pterodroma | 1 | SW | | |
| 0852 | Juan Fernandez Petrel | 1 | on H ₂ O | NO molt | white below - appeared to have black head but no black underwing border, but not observed well enough to be sure |
| 0852 | White-wing Petrel | 1 | @ | | black underwing border not quite as thick as a Black-winged Petrel - molt present |
| 0912 | Phoenix/or Tahiti Petrel | 1 | on H ₂ O | | flushed by ship - had a rich brown |
| 1030 | NO | | | | |
| TO | | | | | |
| 1425 | Observ. | | | | Oceanographer station |
| 1443 | Harcourts/or Leach's Pet | 6 | on H ₂ O | | 1425 ship moving slow for plankton tow 1436 resume full speed flew like Harcourts, broad white wings but fairly square tails flew + looked (white wing) more like Harcourts |
| 1507 | Harcourts/or Leach's Pet | 1 | @ | | |
| | Wilson's/or Elliotts | 1 | @ | | definitely smaller + bill like slight very different when seen together |
| 1515 | Harcourts? Storm Petrel | 6 | @ | | very good look of one bird which was more like |
| | Wilson's/or Elliotts S.P. | 1 | @ | | excellent view |
| 1544 | Harcourts/or Leach's Pet | 2 | @ | | around garbage just dumped overboard |
| 1548 | Storm Petrel | 2 | @ | | in front of ship |
| 1556 | Harcourts/or Leach's | 1 | @ | | |

002

OBSERVERS:

Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

P. J. Gould

Date 29 June 1967
Pg. # 2

SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

1600

NO

1730

Obs.

1735

Harcourt/
Leach's St. Pet

1

©

1730 slow speed for plankton tow

Probably Harcourt

1813

Small
Pterodroma

1

SW

1750 full speed

1824

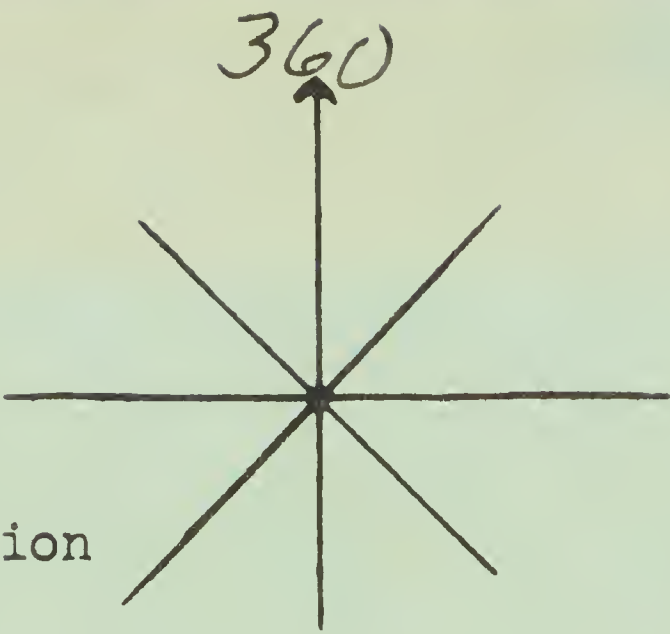
Harcourt/ or
Leach's St. Pet

1

N

Secure observation of
sunset ca. 1833

observation held from
2245 to 2400.
no birds seen



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E





OBSERVERS:

P. J. Gould

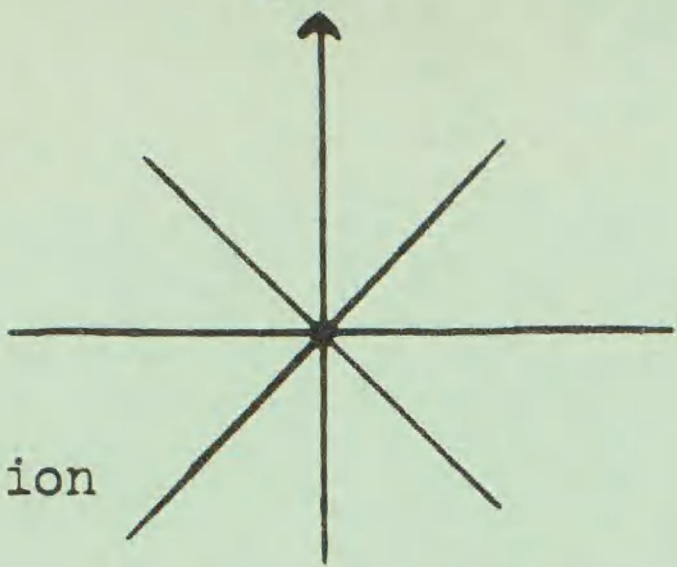
SPECIMEN
or

Sunrise = 0626

Date 30 June 1967
Pg. # 1

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|--------------------|--------------------------------|---|------------------------|----------|--|
| 0750 To 0820 | no obs. | | | | TOS station |
| 0838 | white-wing Petrel | 1 | on H ₂ O | | only a thin black border to underwing, much less than in a black-winged Petrel. but black throat definitely came down side of throat in brood patch |
| 0903 | Harcourt's S.P. | 1 | ⊙ | | Flight definitely not Leach's, rump patch broad + well defined |
| 1000 | white-wing Petrel | 1 | m H ₂ O | |  |
| 1015 | Harcourt's Petrel | 1 | ⊙ | | underwing with different black border, almost as broad if not as broad as black-winged border. |
| 1027 | Harcourt's/ Leach's Pet | 1 | ⊙ | | molt visible in primary flying more like Leach's, but still somewhat more bottle-like - rump patch broad + clean cut. |
| 1028 To 1400 | no obs. | | | | Oceanographic station. slow speed net tow at 1325 |
| 1455 | Pterodroma | 1 | NE - distant | | resume full speed at 1415 |
| 1515 | WHALE | 1 | NW | | traveling fast, 40+ feet,  |
| 1516 | Harcourt Storm Petrel | 3 | ⊙ | | |
| | white-throated Storm Petrel | 1 | ⊙ | | beautiful view, dark chest band |
| 1524 | white-wing Petrel | 1 | SW | | white throat - everything  to H ₂ O but did not kick off. |
| 1531 | Harcourt's/ Leach's | 1 | ⊙ | |  molting |
| 1600 To 1715 | no obs. | | | | |
| 1725 | white-wing Petrel | 1 | SE H ₂ O | | 1725 - slow speed for plankton tow 1745 - resume full speed |

360

Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

SPECIMEN
or

OBSERVERS:

P. J. Green

Date *30 June*
Pg. # *2*

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|--|-----------------------------------|----------|-----------------|----------|---------|
| 1806 | <i>Harcourts/ Leach's Pet</i> | <i>1</i> | <i>⊙</i> | | |
| 1807 | <i>Shear/pet</i> | <i>1</i> | <i>NW ⊙</i> | | |
| <p><i>Secure observations at ca. sunset 1838</i></p> | | | | | |

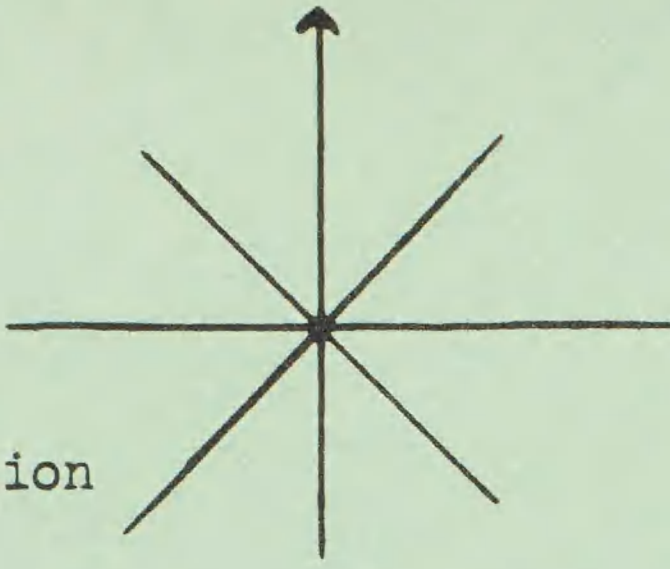
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OBSERVERS:

P. J. Gould

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Ship
Direction



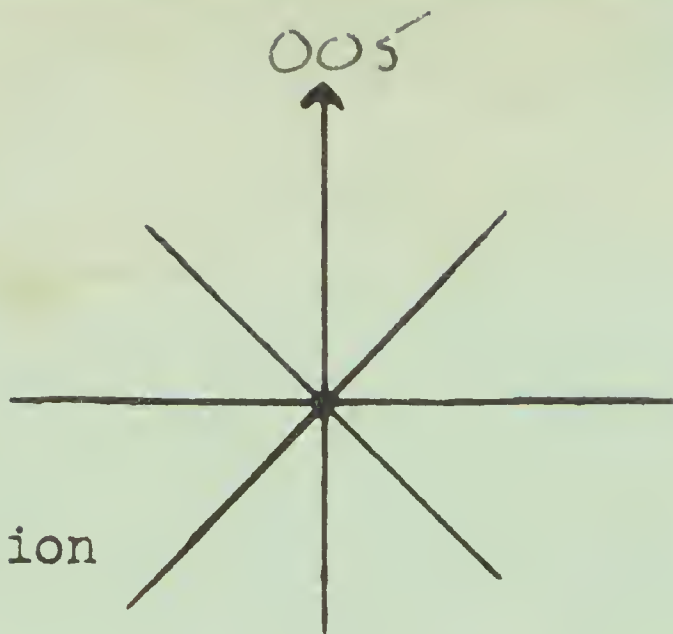
SPECIMEN
or

Date 30 June - 1 July
Pg. # 1

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|-------------|-------------------------------|---|------|----------|---------------------------------|
| | <u>Ship stopped</u> | | | | <u>Begin observations 2315</u> |
| 2320 | Shear/Pet | 1 | | | |
| 2353 | Harcourt/ Leach Pet | 1 | | | |
| 2358 | " | 1 | | | |
| 0005 | " | 1 | | | |
| <u>0005</u> | <u>slow speed for net tow</u> | | | | |
| 0030 | Shear/Pet | 1 | | | <u>ca 5 fms</u> |
| 0035 | white wing Petrel | 1 | | | |
| | | | | | <u>Secure observations 0045</u> |

8
5
40

Ship
Direction



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:


P. J. Gould

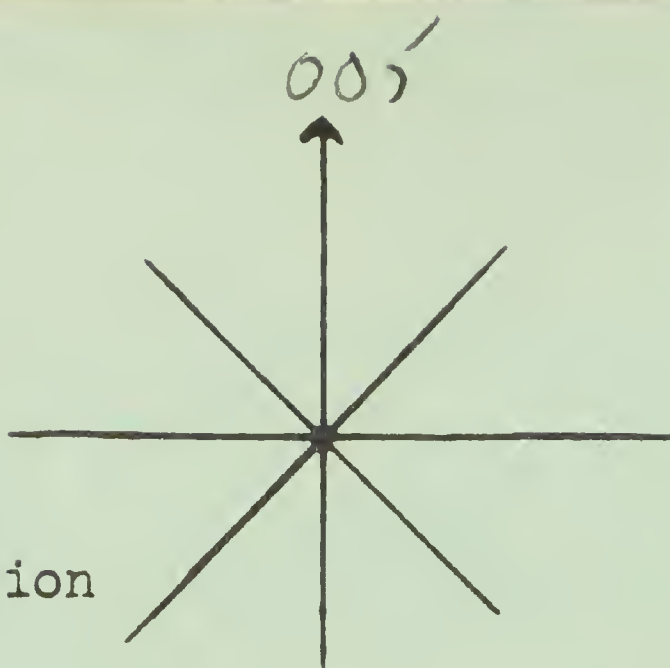
Date 1 July, 1967
Pg. # 1

SPECIMEN
or

Sunrise = 0623

Begin observations = 0630

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|--------------------|-------------------------|-----|---------------------|----------------------------|---|
| 0646 | Juan Fernandez Petrel | 1 - | ⊙ | | molting in remiges |
| 0702 | Wedge-tailed Shearwater | 1 - | ⊙ | | light phase |
| 0716 | " " | 1 - | W | | light phase |
| 0722 | Juan Fernandez Petrel | 1 - | W | | molting in remiges |
| 0723 | Wedge-tail Shearwater | 1 - | on H ₂ O | | light phase |
| 0724 | " " | 1 - | W | | " " } joined together, to drift W |
| 0750 to 0815 | NO Observation | | | | ship steamed from 0800 to 0815 observations from 0805 to 0815 = no birds |
| 0819 | Harcourts/Leach's Pet. | 1 - | W | | |
| 0907 | White-winged Petrel | 1 - | on H ₂ O | | relatively broad black underwing band |
| 0934 | Small Pterodroma | 1 - | | | |
| 0953 | Juan Fernandez Petrel | 1 - | on H ₂ O | | no molt visible, gave a high pitched buzzing call as it rose from H ₂ O |
| 1017 | Harcourts Storm Pet. | 2 - | ⊙ | Follow ship for over 5 min |  well defined, sharp outlined wing patch, flight, lighter, more constant wing beats, & some a but faster beats - doesn't slip sideways like Leach's often do when gliding. Tail not noticeably forked even when spread full or half. |
| 1030 to 1340 | NO Observations | | | | Oceanographic Station |
| 1353 | Juan Fernandez Petrel | 1 - | on H ₂ O | | no apparent molt |
| 1400 | Rufous-tail Tropicbird | 1 - | ⊙ | 1420 stopped and tied | over ship - bill yellow to pale orange black speckling all over (Subadult) |



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

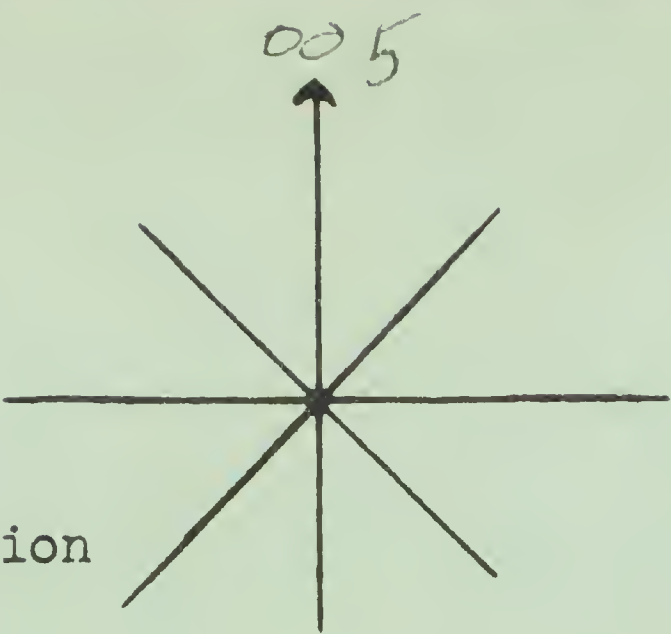
OBSERVERS:

V. J. Gould

Date 01 July 1967
Pg. # 2

SPECIMEN
or

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|--------------------|-----------------------|---|---------|----------|--|
| 1412 | White-wing Petrel | 1 | ☉ | | |
| | Pterodroma | 1 | ☉ | | |
| | Storm Petrel | 1 | ☉ | | |
| 1414 To 1435 | | | | | Stopped for TSD 1416 Pterodroma ☉ 1425 Harcourt Storm Petrel ☉ |
| 1435 | Harcourt Storm Petrel | 1 | ☉ | | same as 1625 entry |
| 1447 | Leach's Petrel | 1 | on 420 | | no molt old plumage |
| 1458 | Shear/Pet | 1 | SW | | |
| 1458 | " " | 1 | SW | | dark, looked like light phase wedgetail |
| 1501 | Leach's Petrel | 1 | W | | molt in remiges |
| 1506 | Storm Petrel | 1 | E | | |
| 1507 | Tahiti/Pha Petrel | 1 | on 120 | | |
| 1508 | Flock | | | | very large bird, dark, blackish brown above underwings solid dark, slow wing beats as arising from 1420 |
| | Leach's Petrel | 4 | on 1420 | | heavy molt |
| | White-wing Petrel | 2 | on 420 | | |
| | Harcourt's Petrel | 1 | ☉ | | |
| 1517 | Wedge-tail Shearwater | 1 | W | | dark phase |
| 1520 | Leach's Petrel | 1 | ☉ | | |
| | Leach's or Harcourt's | 1 | ☉ | | flew like Leach's |
| 1526 | Leach's Petrel | 3 | ☉ | | molt in |
| 1551 | Harcourt's St. Pet | 1 | ☉ | | |



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

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Date 01 July 1967
Pg. # 3

SPECIMEN
or

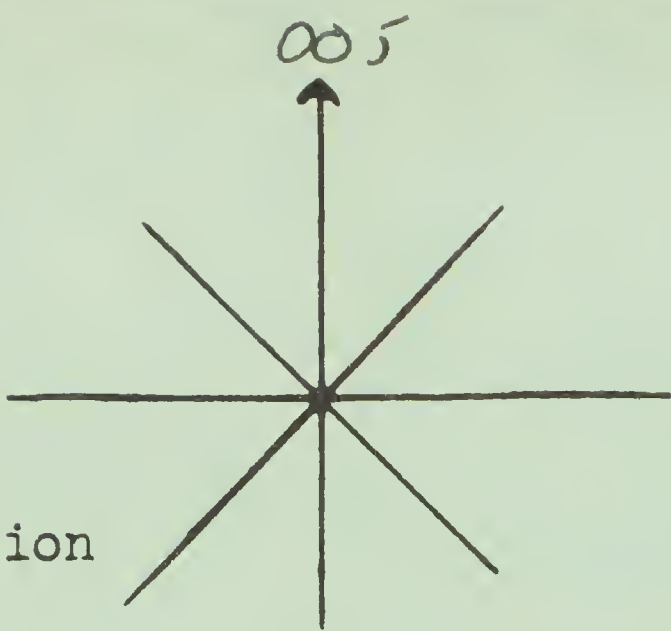
TIME SPECIES # DIR. BAND NO. REMARKS

| | | | | | |
|---------|-----------------------------|---|-----|--|---|
| 1550 | Flock | | | | many sitting, many flying - definite feeding flock, two small fish, possibly skipjack were seen by the Captain. at least one immature (1st yr) bird most were adults. [a Leach Storm Petrel was found on deck at 1600 but apparently had been there for some time.] Flock scattered over large area |
| To 1600 | Sooty Tern | 225 ± 50 | | | |
| | Wedge-tail Shearwater | 200 ± 50 - light phase 100 ± 25 - dark phase | | | |
| | Pale-footed Shearwater | 1 - | | | |
| | Green Tropicbird | 40 ± 10 | | | |
| | Leach/Harcourt Storm Petrel | 2 - | | | |
| | Red-tail Tropicbird | 1 - | od. | | |

| | | | | | |
|--------------|--------|--|--|--|-----------------------|
| 1600 To 1711 | no obs | | | | oceanographic station |
|--------------|--------|--|--|--|-----------------------|

| | | | | | |
|------------------------|------------|------------------|---------------------|-----------------|---|
| don't count these time | 1711 | Wedge-tail Shear | 2 | ⊙ - light phase | 1711 slow speed for Aloukites tow light phase These birds probably from same flock seen in same place - do not count in total Pfy |
| | 1717 | Wedge-tail Shear | 3 | ⊙ | |
| | | Green Tropicbird | 2 + | ⊙ | |
| | 1744 7/100 | Shear/Pet Tern | 150 ± 25 30 ± 10 | | |

| | | | | | |
|------|----------------------|-----|---------------------|------------|---|
| 1745 | Green Tropicbird | 1 - | on H ₂ O | heavy molt | 1745 - full speed leaving flock leaving flock |
| 1758 | " " | 2 - | on H ₂ O | heavy molt | |
| 1805 | " " | 1 - | ⊙ | | |
| 1805 | Phoenix/White Petrel | 1 - | ⊙ | | |



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Pf Gould

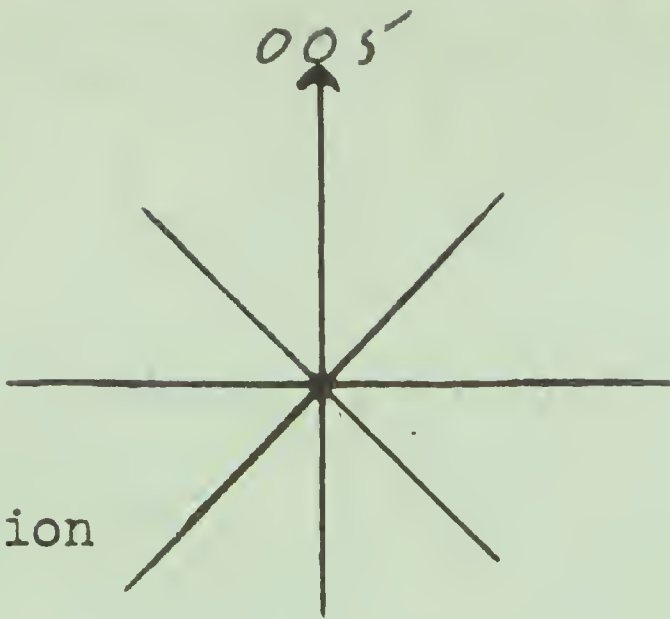
Date 01 July 1967
Pg. # 4

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

| | | | | | |
|------|---------------------|------|---|-------------|--|
| 1807 | Flock | | | | Feeding - birds fairly concentrated in small area. |
| TO | Wedge-tail | 3±1 | | | |
| 1819 | Wedge-tail | 6±1 | | light phase | |
| | Sooty Tern | 12 | | dark phase | |
| | Frigatebird | 1 | | | |
| | from Fanning Petrel | 20±5 | | | looked all dark |
| | Kermadec? Petrel | 1 | | | dark phase |
| 1825 | from Fanning Petrel | 1 | ⊙ | | |
| 1827 | " | 4 | ⊙ | | all in heavy molt |
| 1833 | Wedge-tail Shear. | 1 | ⊙ | | dark phase |
| 1840 | Frigatebird | 1 | S | | high - ♂ ad. |

Severe observations
observed 1842



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

~~2 July~~
P. J. Gould

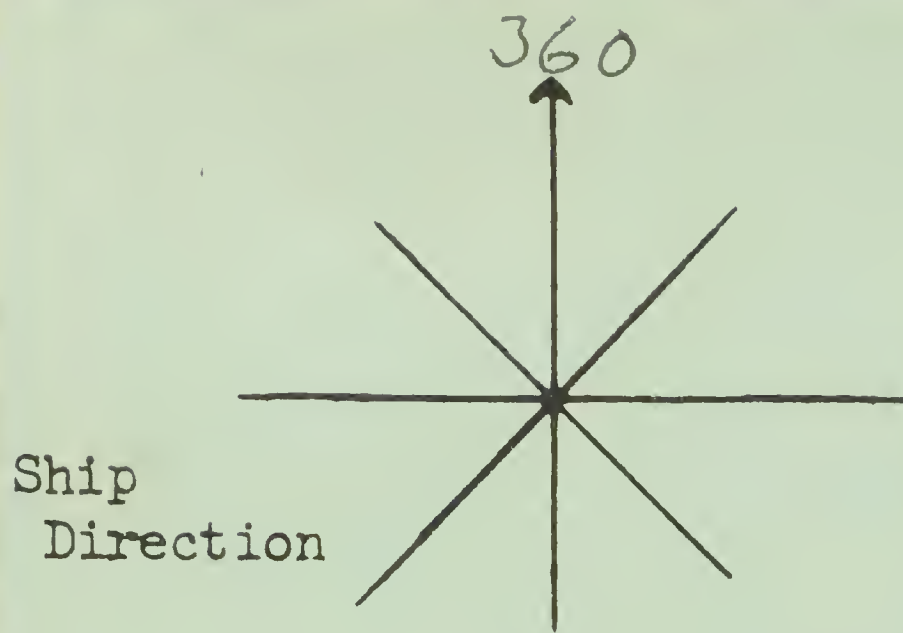
Date 02 July 1967
Pg. # 1

SPECIMEN
or

sunrise = 0614

begin observations = 0620

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|--------------|-----------------------|---|-----------------------------|----------|---|
| 0620 | Pterodroma | 1 | on H ₂ O | | All dark, underwing all dark, but appeared to have grey high lights, size between Black-wing and Juan Fernandez |
| 0636 | Pomarine Jaeger | 1 | ⊙ light phase | | |
| 0641 | Wedge-tail Shearwater | 1 | W dark phase | | |
| 0646 | Kermadec Petrel | 1 | E intermediate phase | | |
| 0647 | Juan Fernandez Petrel | 2 | on H ₂ O molting | | |
| 0648 | " " | 1 | ⊙ " | | |
| 0649 | Shear/pet | 1 | on H ₂ O | | |
| 0654 | Shear/pet | 1 | ⊙ | | |
| 0655 | Juan Fernandez Petrel | 1 | on H ₂ O | | |
| 0659 | Shear/pet | 1 | ⊙ | | |
| 0659 | " | 1 | ⊙ | | may have been on H ₂ O with the JFP |
| 0603 | Black-wing Petrel | 1 | on H ₂ O | | |
| 0730 to 0745 | NO OBS | | | | Change course to 020 360° at 0720 |
| 0755 | Juan Fernandez Petrel | 4 | on H ₂ O molting | | |
| 0805 | Wedge-tail Shearwater | 1 | ⊙ dark phase | | |
| 0806 | Juan Fernandez | 1 | ⊙ | | |
| 0837 | " " | 1 | ⊙ molting | | probably just got up off H ₂ O |
| 0837 | Wedge-tail | 1 | ⊙ molting | | DARK phase " " " " " |



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

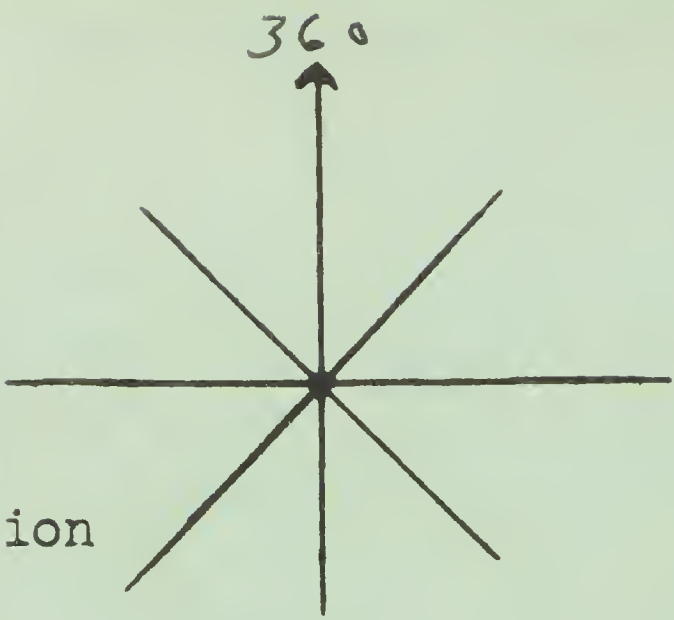
OBSERVERS:

P. Gould

Date 02 July 1967
Pg. # 2

SPECIMEN
or

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|----------------------------|----------------------------|-----|----------|----------|--|
| 0848 | Leach Petrel | 1 | E | | molting |
| 0852 | " " | 1 | E | | molting |
| 0900 | Leach Petrel | 3 | | | feeding on flying fish, one large turn surged over birds. birds arcing high in air, chasing flying fish by dropping & gliding over surface |
| | Phoenix / or Tahiti Pet | 1 | | | |
| 0906 | Leach Petrel | 2 | @ | | molting |
| 0906 | White-neck Petrel | 1 | @ | | no molt - underwings not seen well enough, but white collar as large & well defined |
| 0908 | wedge-tail | 1 | E | | dark phase |
| 0916 | Leach Petrel | 1 | @ | | well seen |
| 0917 | Leach Petrel | 1 | @ | | molting |
| 0922 | " " | 1 | @ | | molting |
| 0923 | wedge-tail Shearwater | 1 | SE | | light phase - no molt |
| 0932 | Leach Petrel | 1 | @ | | molting |
| 0937 | wedge-tail Shearwater | 2 | SE | | 0924 - two turtle rising far in advance of rain squall Dark phase |
| rain 0940 to 0954 | 0945 Leach Petrel | 3 | N N20 | | molting |
| | 0953 " | 1 | " | | " |
| | 0959 " | 1 | @ | | " |
| | wedge-tail? | 1 | @ | | light phase? |
| 1000 | wedge-tail shearwater | 1 | S | | dark phase |
| 1005 to 1007 | Flock | | | | feeding in distance, birds mostly silhouettes |
| | Tern | 6 | @ | | probably Sooty Terns |
| | Shear/Pet | 4±2 | @ | | several looked like wedge-tails from flight & outline |



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. J. Gould

Date 02 July 1967
Pg. # 3

SPECIMEN

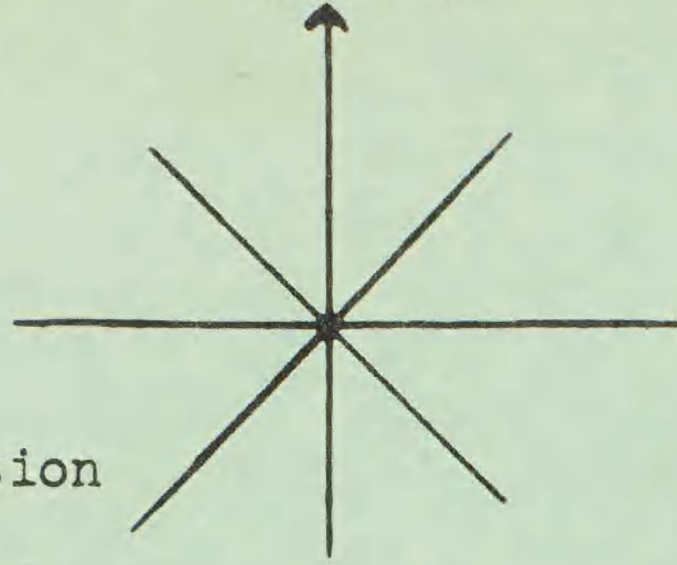
or

TIME SPECIES # DIR. BAND NO. REMARKS

| | | | | | | |
|--------------------------------------|--------------|-----------------------|---|---------------------|--|--|
| | 1014 | Black-winged Petrel | 1 | S | molting | |
| | 1025 | Swan Tern | 3 | on H ₂ O | molting | |
| | 1030 to 1407 | NO observation | | | | oceanographic station } mostly rain |
| 1407 ↑ Heavy RAIN ↓ | 1418 | Pterodroma | 1 | ⊙ | | 1407 - resume full speed in light rain at edge of squall |
| 1420 1418 ↑ light rain ↓ | 1425 | Wedge-tail Shearwater | 1 | on H ₂ O | | light plane - in light rain |
| 1432 1440 ↑ rain ↓ | 1452 | Sooty Tern | 2 | S to SE | | adult - flying in rain |
| | 1500 | Giant Petrel | 2 | on H ₂ O | | flushed ca. 500 yds in front of ship, flew away from ship with heavy wing beats and glides, in typical Procellariid fashion, but I did not see them as much. They were huge, easily larger than the albatross I'm familiar with. The body appeared very heavy, chunky, and the wing broader and shorter than albatross wing. Color appeared mottled as if molting, especially on wings, general color appeared brownish with lighter head + perhaps breast, belly not seen, bill not seen. I feel quite sure of the identification. off. |
| | 1525 | Shearwater | 1 | NW | light belly, large size | |
| | 1530 | Wedge-tail Shearwater | 9 | on H ₂ O | in heavy rain flushed by ship at least 1 light phase but several looked dark phase | |
| | | | | | | But were in the rain so the light although uniform (no glare) was low. |

2
19
18
34
20
—
91

360



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

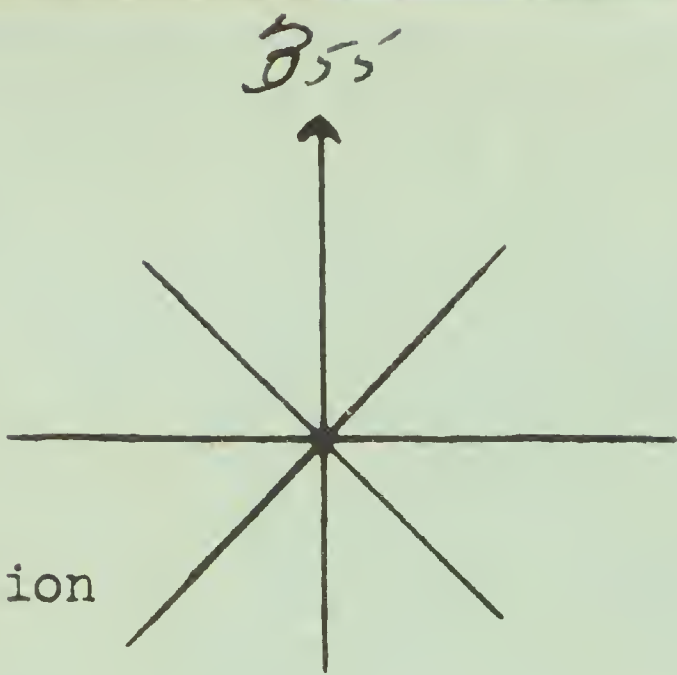
Pf Gould

Date 02 July 1967
Pg. # 4

SPECIMEN
or

| | TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|------------|----------------|-----------------------|-------|------------------|----------|--|
| SAME BIRDS | 1533 | Juan Fernandez Petrel | 9 | on | | |
| | | Wedge tail Shearwater | (2) | H ₂ O | | dark phase flushed by ship in heavy rain |
| | 1535 | Juan Fernandez Petrel | (13) | | | |
| | | Wedge-tail Shearwater | 1 | (C) | | in heavy rain, flying from opposite side of ship from last group. <u>same group?</u> |
| | 1543 | Shear/pet | 1 (C) | (C) | | visibly ca. 500 yards in heavy rain |
| | 1546 | Juan Fernandez Petrel | 1 | W | | heavy rain |
| | 1550 | " | 1 | W | | heavy rain |
| | 1550 | Shearwater | 1 | W | | " molt |
| | | | | | | heavy rain |
| | 1600 | NO | | | | |
| | T ₀ | observations | | | | oceanographic station |
| | 1745 | | | | | |
| | 1813 | Shearwater/or Petrel | 1 | | | full speed resumed at 1745 on horizon |
| | 1826 | Juan Fernandez Petrel | 1 | W | | molt |

Secured observations
at ca. sunset 1848



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. J. Gould

Date 03 July 1967
Pg. # 1

SPECIMEN

sum 0609

or

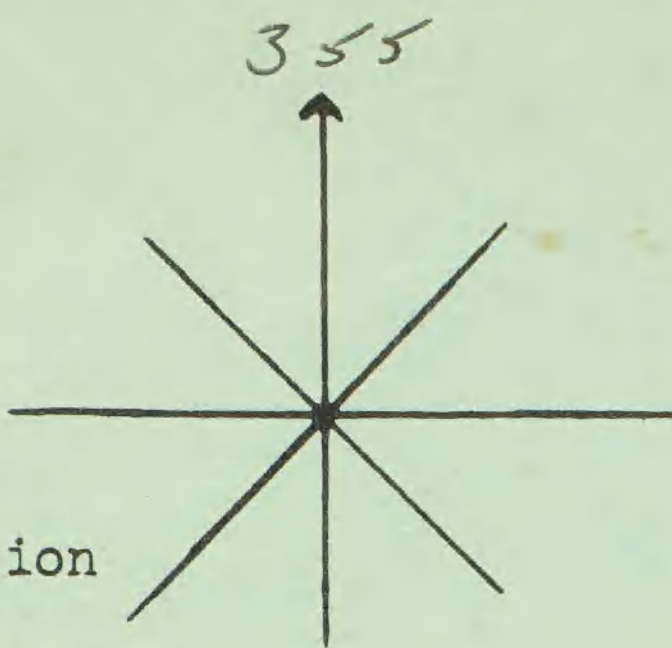
TIME SPECIES # DIR. BAND NO. REMARKS *begin observation 0605*

| | | | | | |
|---------|-----------------------|-------|--------|----------------|---|
| 0641 | Common Noddy Tern | 1 | S | | |
| 0703 | Flock | | | | <i>feeding in light, displaying rain</i> |
| to 0705 | from Kennedy Petrel | 10 F2 | ⊙ | | |
| | Wedge-tail Shearwater | 3 ± 1 | ⊙ | | |
| | Small Pterodroma | 1 - | ⊙ | | <i>dark phase</i> |
| 0712 | Small Pterodroma | 1 - | S | | |
| 0717 | Shear/Pet | 1 - | | | |
| 0746 | Wedge-tail Shearwater | 1 - | W | | <i>dark phase</i> |
| 0758 | from Kennedy Petrel | 1 - | S | <i>no molt</i> | |
| 0800 | shear/Pet | 1 - | W | | |
| 0816 | Shearwater | 1 - | ⊙ | | <i>white below</i> |
| 0821 | Leach/or Harcourt Pet | 2 - | ⊙ | | <i>flew like Leach's</i> |
| 0835 | shear/Pet | 1 - | ⊙ | | <i>white below</i> |
| 0836 | Wedge-tail Shearwater | 1 - | ⊙ | | <i>dark phase</i> |
| 0850 | from Kennedy Petrel | 1 - | on 1st | <i>molting</i> | |
| 0902 | Leach/or Harcourt Pet | 1 - | ⊙ | | <i>flew & looked like Leach's</i> |
| 0919 | Leach/or Harcourt Pet | 4 - | on 1st | | <i>a lot of white on rump, flew like Harcourt</i> |
| 0951 | from Kennedy Petrel | 1 - | on 1st | <i>molting</i> | <i>in strong wind (but some fluttering wing beats). In this kind of weather Leach's fly with more heave ho in, more and more gliding.</i> |
| 1023 | Leach Petrel | 1 - | ⊙ | | <i>typical flight & appearance.</i> |
| 1030 | " " | 3 - | on 1st | | <i>" " "</i> |

0730
to
0746

no observation.

Ship
Direction



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. J. Gould

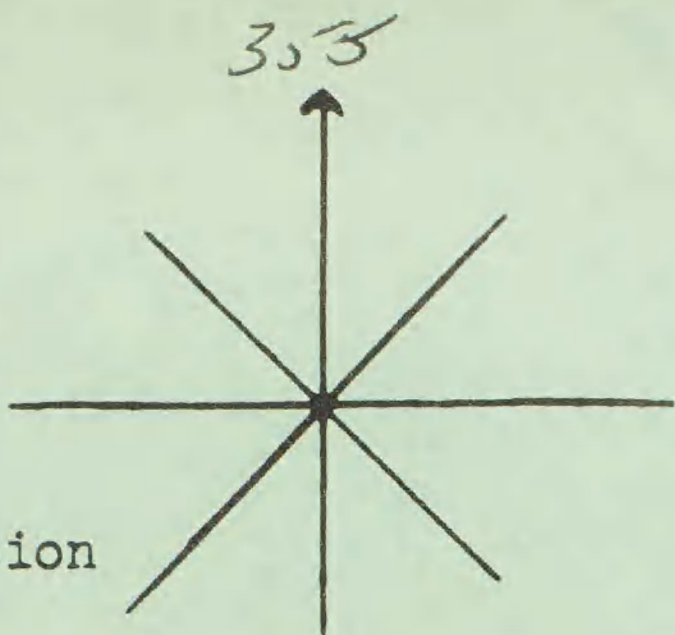
Date 03 July 1967
Pg. # 2

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

| | | | | | |
|------|-----------------------------------|----|-----------|-----|---|
| 1030 | 20 | | | | |
| 1440 | Obs | | | | |
| 1443 | Storm Petrel | 2- | ⊙ | | probably Leach's |
| 1445 | Leach Petrel | 1- | ⊙ | | |
| 1449 | " " | 1- | ⊙ | | |
| 1454 | Red-tail Tropicbird | 4- | over ship | → W | all adults, several partial breeding display attempts |
| 1500 | Storm Petrel | 1- | E | | |
| 1503 | Leach Petrel | 1- | SE | | |
| 1503 | wedge-tail Shearwater | 1- | S | | dark |
| 1505 | Storm Petrel | 1- | ⊙ E | | |
| 1506 | " " | 1- | ⊙ E | | |
| 1508 | Leach Petrel | 1- | ⊙ W | | |
| 1511 | " " | 2- | ⊙ E | | |
| 1515 | Storm Petrel | 1- | ⊙ E | | |
| 1516 | " " | 1- | ⊙ E | | |
| 1517 | " " | 1- | ⊙ W | | |
| 1520 | Red-tail Tropicbird | 1- | ⊙ | | both circling together - Red-tail both adults |
| 1521 | Storm Petrel | 1- | | | |
| 1523 | Wedge-tail Shearwater | 1- | | | light phase |
| 1524 | Phoenix / Tobacco Petrel | 1- | E | | |
| 1526 | Leach Petrel | 2- | W | | |
| 1529 | " " | 1- | W | | |
| 1530 | " " | 1- | E | | |
| 1535 | " " | 2- | ⊙ | | |

Ship
Direction



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. J. Gould

SPECIMEN
or

Date 03 July 1967
Pg. # 3

TIME SPECIES # DIR. BAND NO. REMARKS

(see over side)

| | | | |
|------|--------------|----|----|
| 1538 | Leach Petrel | 1- | NE |
| 1538 | " " | 1- | E |
| 1538 | " " | 1- | NE |
| 1543 | " " | 1- | E |
| 1544 | Storm Petrel | 1- | NE |
| 1550 | Leach Petrel | 1- | E |
| 1552 | " " | 2- | E |
| 1600 | " " | 5- | W |

1600 NO
TO observations
1720

ocean right gear Station

| | | | |
|------|---------------------------------|----|--------|
| 1725 | Leach Petrel | 2- | → |
| 1730 | Wedge-tail Petrel | 1- | → |
| 1733 | Phoenix/ Tahiti Petrel | 1- | ⊙ |
| 1733 | Black-wing Petrel | 1- | on the |
| 1739 | Leach Petrel | 1- | |

ship not moving

Dolphin

flushed by phoenix/tahiti petrel. P/T petrel
looked twice as big.

| | | | |
|------|--------------|----|------|
| 1758 | Leach Petrel | 1- | NW |
| 1805 | " " | 2- | NW |
| 1823 | " " | 2- | SE ⊙ |
| 1826 | " " | 1- | ⊙ |
| 1826 | Wedge-tail | 1- | W |
| 1827 | " " | 1- | W |
| 1827 | Leach Petrel | 5- | ⊙ |
| 1828 | " " | 1- | ⊙ |
| 1829 | " " | 1- | ⊙ |
| 1829 | " " | 1- | ⊙ |
| 1840 | " " | 4- | N |

ship resume full speed at 1745

dolphin

" "

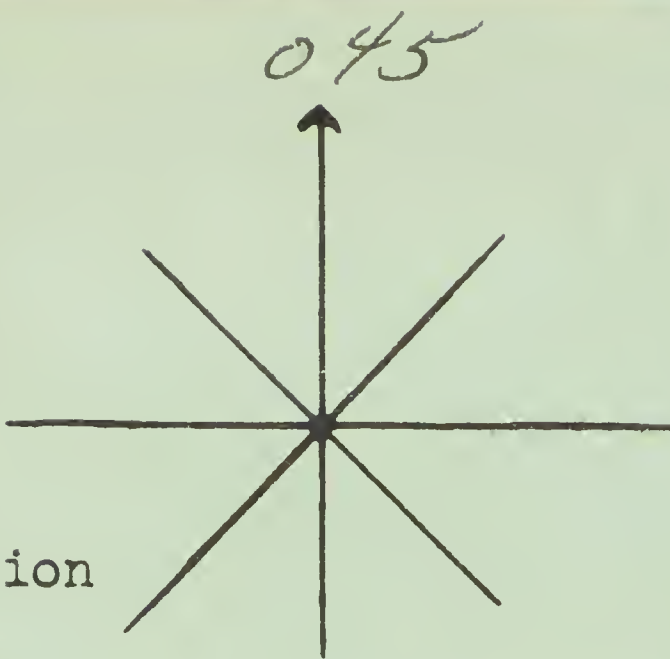
actively feeding ⊙ ⊙ ⊙

| | | | |
|------|--------------|----|----|
| 1840 | shear/pet | 1- | S |
| 1846 | Leach Petrel | 1- | →W |
| 1849 | Storm Petrel | 1- | W |

white below, large, slow flying
sunset = ca. 1853
secure observations 1900

Nocturnal 2300 to 2330

2305 - Leach Petrel



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. J. Gould

Date 04 July 1967
Pg. # 1

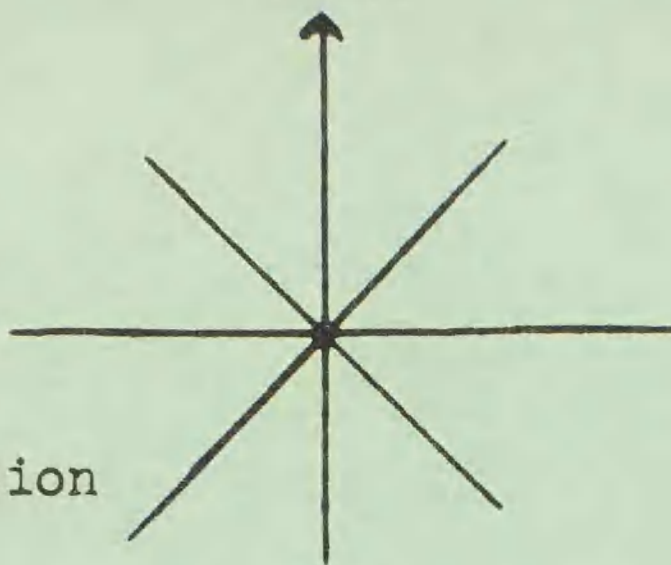
SPECIMEN
or

sunrise = 0605

begin observations = 0600

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|------|--------------------------|-------|------|---------------------------------|--|
| 0635 | Shear/Pet | 1 | ? | | white below, looked like small pterodroma? |
| 0638 | Levon Fernand Petrel | 1 | NW | molting | |
| 0658 | Wedge-tail Shearwater | 1 | ⊙ | dark Phase | |
| 0704 | Flock | | | | Actively feeding over school of jumping |
| 0712 | Shear/Pet | 50±10 | ⊙ | | Tuna. Saw perhaps 10-20 fish jumping out of water near the boat. all of them looked like Levon Fernand Petrels. but they were too far away to be sure. Mate on watch who has had lots of commercial fishing experience estimated the flock to be about 1 mile away. I had also estimated the same distance, a somewhat less (3/4 to 1 mile) another man on watch who has had much less experience estimated ca. 1/4 mile. This last man did not have binoculars and I thought that there were less than 10 birds in the flock. The mate, was also without binoculars, but thought there were more than that although he made no attempt to estimate the number present. The main reason the birds could be seen was that the sun was reflecting off their white underparts. They could only barely be made out when they turned their backs toward the sun. at this time they could only be seen when outlined against the sky. |
| 0734 | NO | | | | |
| 0745 | observation | | | | |
| 0804 | pterodroma | 1 | NW | probably S.F.P. | |
| 0815 | Flock | | | actively feeding (no fish seen) | |
| 0819 | Levon Fernand Petrel | 13±3 | | | |
| | Wedge-tail Shearwater | 13±3 | | light Phase | |
| | Wedge-tail Shearwater | 1 | | Dark Phase | |
| 0835 | Levon Fernand Petrel | 1 | ⊙ | molting | |
| 0840 | " " | 1 | ⊙ | molting | |
| 0849 | " " | 1 | NW | | |
| 0904 | " " | 4 | ⊙ | | searching |
| 0907 | " " | 1 | NW | | |
| 0935 | " " | 1 | ⊙ | | |
| 1015 | Levon Petrel | 1 | ⊙ | | |
| 1030 | | | | | oceanographic station ship stopped - bird reported flying around ship - apparently a Booby, perhaps Blue-faced Booby |
| 1415 | | | | | |

043

Ship
Direction
 SMITHSONIAN INSTITUTION
 DIVISION OF BIRDS
 AT SEA DAILY LOG - E

OBSERVERS:

P. J. Gould

Date 04 July 1967
Pg. # 2

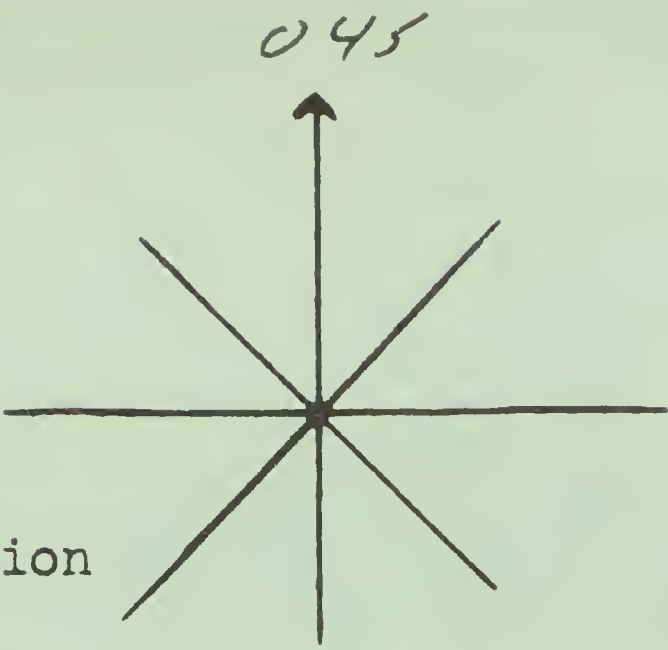
SPECIMEN

OR

TIME SPECIES # DIR. BAND NO. REMARKS

| | | | | | |
|---------------------|-----------------------|---|------------------------|--|---|
| 1424 | frigatebird Petrel | 1 | W | | molting |
| 1459 | " " | 1 | W | | molting |
| 1558 | " " | 1 | W | | heavy rain squall 1535 to 1550 |
| 16.00 to 1740 | no obs. | | | | oceanographer station ship stopped 1700 - "Booby" reported but could not be described. 1715 - f saw a Pomarine jaeger ad. light phase. |
| 1754 | Shear/pet | 1 | N | | white below |
| 1804 | " " | 1 | | | " " , at edge of rain squall |
| 1805 | " " | 1 | on H ₂ O | | |
| 1805 | frigatebird Petrel | 1 | " | | |
| 1827 | " " | 1 | " | | molting |
| 1842 | Shear/pet | 2 | " | | |

 Secured watch at
 sunset 1852



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. J. Gould

Date *05 July 1967*

Pg. #

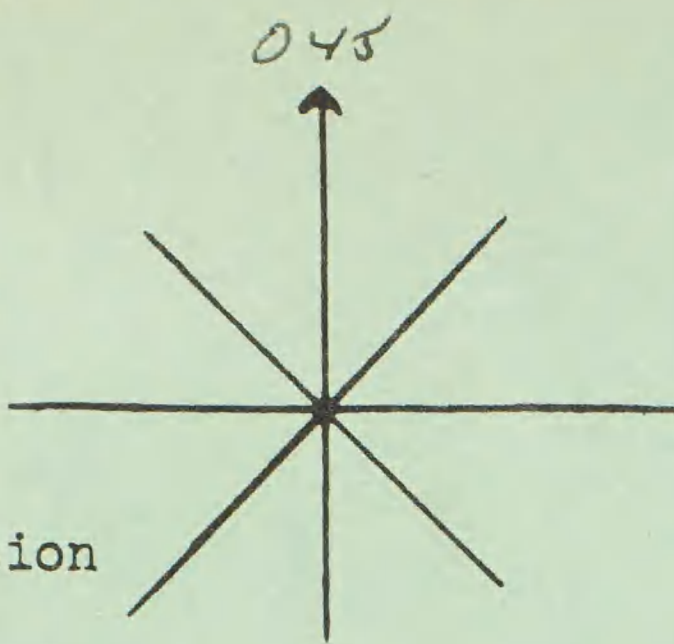
SPECIMEN

or

sunrise = 0549

begin observations = 0546

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|--------------------|-------------------------|---|------|----------|---|
| 0549 | Shear/Pet | 1 | | | white below |
| 0635 | " " | 1 | | | " " |
| 0640 | Immature Petrel | 1 | SE | | |
| 0643 | Shear/Pet | 1 | SE | | Probably Wedge-tailed Shearwater |
| 0659 | Blue-face Booby | 1 | ⊙ | | collected |
| 0723 | Wedge-tailed Shearwater | 1 | ⊙ | | dark phase |
| 0730 To 0743 | NO 065. | | | | |
| 0815 | Immature Petrel | 1 | ⊙ | | flying as if feeding, but can't be sure |
| 0838 | " " | 1 | SE | | molting |
| 0843 | Shear/Pet | 1 | S | | most likely Immature Petrel |
| 0859 | Immature Petrel | 1 | SE | | molting |
| 0905 | Wedge-tail Shearwater | 1 | → | | dark phase |
| 0909 | Shear/Pet | 1 | ? | | |
| 0925 | Immature Petrel | 1 | S | | |
| 1000 To 1350 | NO obs | | | | blue-faced booby reported at ca. 1330 |
| 1455 | Immature Petrel | 1 | SW | | molting |
| 1510 | " " | 1 | ? | | molting |
| 1533 | " " | 1 | S | | |
| 1537 | Wedge-tail Shearwater | 1 | S | | dark phase, no molt, plumage looked new |
| 1544 | " " | 1 | NE | | dark phase and black - |



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

R. J. Gould

Date 05 July 1967
Pg. # 2

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

1600
To
1745

no
obs.

1807

*Juan Fernandez
petrel*

1

ND SE

1817

" "

1

^{on}
H₂O
NW

1826

" "

1

^{on}
H₂O

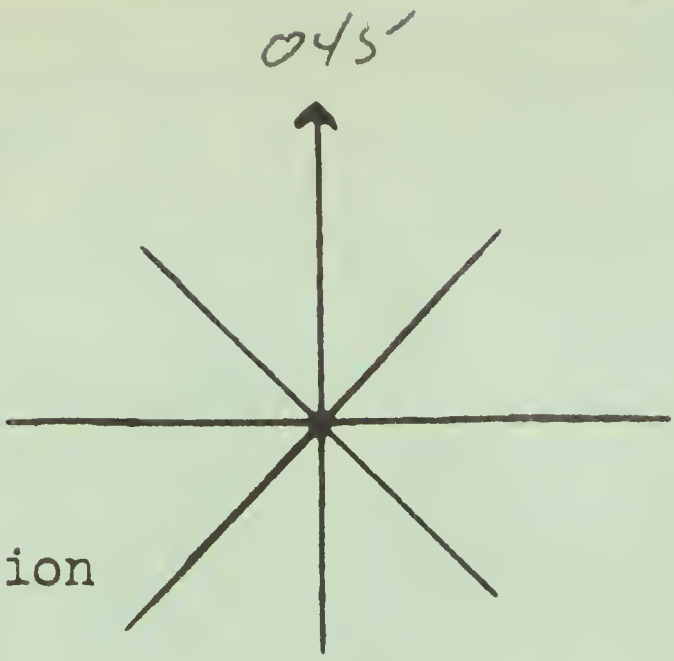
1828

" "

1

^{on}
H₂O

*Second watch
at sunset 1847
green Flash!*



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. J. Gould

Date 06 July 1967
Pg. # 1

SPECIMEN
or

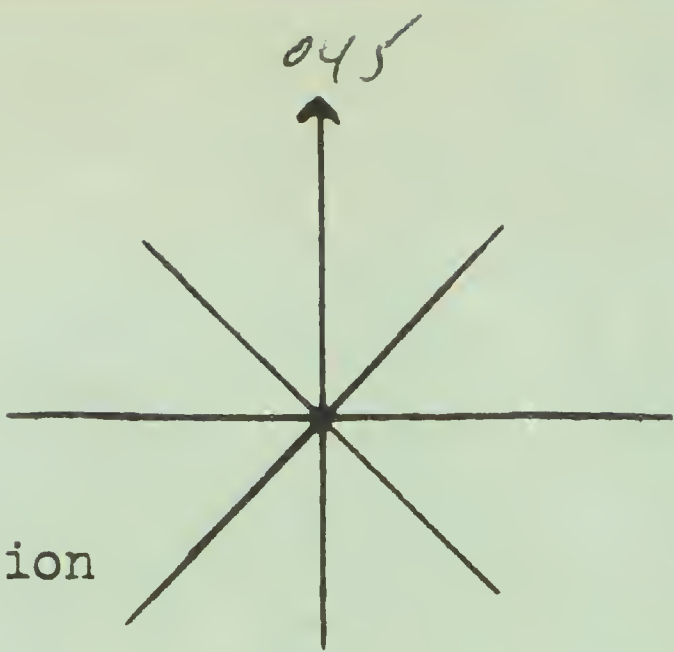
sunrise - 0539

begin observations = 0545

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|--------------------|--------------------------|----|-----------|-------------------|---|
| 0615 | Shear/Pet | 1- | NE | | white below, probably <i>pterodroma</i> |
| 0626 | fronternody Petrel | 1- | NNE | | |
| 0628 | Wedge-tail Shearwater | 1- | NW | | dark phase |
| 0644 | " " | 1- | NW | | dark phase |
| 0648 | " " | 1- | NW | | dark phase |
| 0720 | fronternody Petrel | 1- | SW | | |
| 0730 to 0750 | NO obs | | | | |
| 0750 | blue-face booby | 1- | feeding | | adult? (has been around since 0730) has a few dark feathers toward the rump area but otherwise looks fully adult. 0810 = bird departed |
| 0755 | fronternody Petrel | 1- | W | | |
| 0854 | Wedge-tail Shearwater | 1- | on 420 | | dark phase |
| 0859 | Red-billed Tropicbird | 1- | on 420 | | adult. looks smaller than Red-tail and flies lighter, sometimes in flight between Red tail & White tail. (bill bright red, back flecked with black, long dark feathers. |
| 0942 | Wedge-tail Shearwater | 1- | ⊙ | Dark Phase | |
| 0953 | fronternody Petrel | 1- | SW | molting | |
| 0957 | Pomarine Jaeger | 1- | E | Ad. Dark phase | |
| 0958 | Rock Petrel | 1- | NW | | [0910 - Turtle - Don Wooster] |
| 1012 | Wedge-tail Shearwater | 1- | ⊙ | Dark Phase | |
| 1026 | " | 1- | ⊙S | " | |
| 1026 | Shear/Pet | 1- | ⊙S | | |

[1002 - Turtles (2) fairly round with smooth
backs, green algae growing on backs. one
chasing fish swimming beneath board.]

Ship
Direction



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

PJ Gould

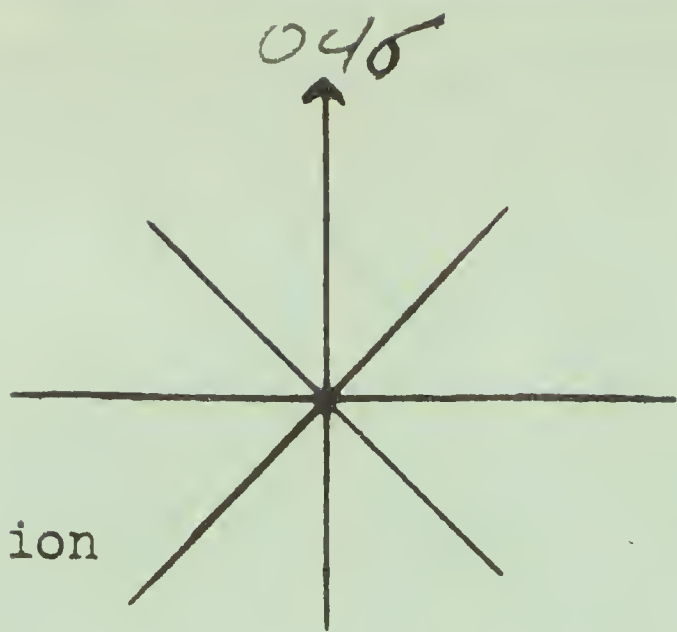
Date 06 July 1967
Pg. # 2

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

| | | | | | |
|--------------------|-----------------------|----|----|--|---|
| 1030 TO 1445 | NO OBS. | | | | 1200 - 1 Blue-face Booby (sub-adult) sitting in H ₂ O oceanographic station |
| 1453 | Townsend's Shearwater | 1- | SE | | couldn't be distinguished from Laysan's, by dorsal view |
| 1503 | Shear/Pet | 2- | SE | | a little below, |
| 1516 | Leach Petrel | 1- | NE | | |
| 1521 | Townsend's Shearwater | 1- | SE | | underwings with relatively thick dark border - broader than Laysan's wing coverts seem a trifle more ragged than Laysan's |
| 1604 TO 1747 | NO OBS. | | | | Stopped for Oceanographic Station Leach Petrel and a Shearwater flew by ca. 1843 1830 |
| 1801 | Wedge-tail Shearwater | 1- | NW | | dark Phase |
| 1822 | " " | 1- | N | | dark Phase |

Leave observation at sunset
1843



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

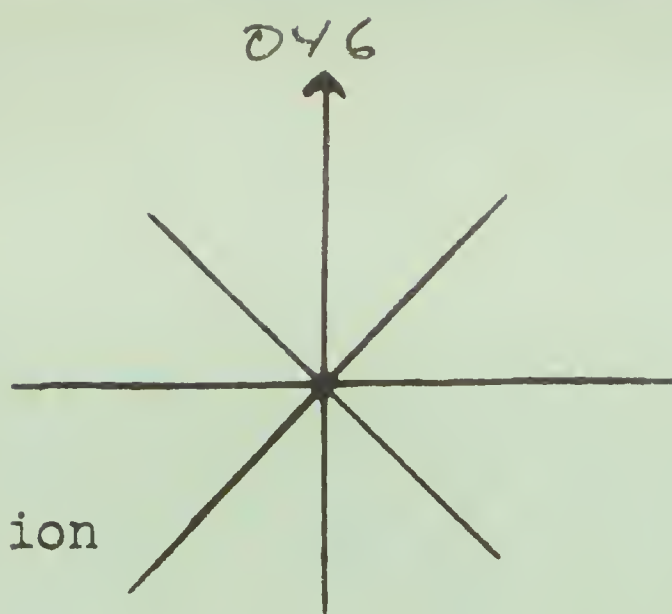
P. J. Gould

SPECIMEN
or

Sunrise = 0528

Date *07 July 1967*
Pg. # *1*

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|------|------------------|------|------|----------|--|
| 0600 | Shearwater | 1 | NE | | large |
| 0610 | Pilot white | 20+- | SW | | moving slowly. |
| | Shear/Pet | 2 | | | |
| 0614 | Blue footed | 1 | SW | | one came in out of water (keeping tail down) or I saw the surface with entire body, not jumping, or diving. |
| | Booby | 1 | | | upper part solid chocolate brown, head brown |
| | Sub ad. | | | | but throat, breast, & abdomen white, cerebra, dark, but center area lighter. Sub adult? |
| 0638 | Tern | 1 | SE | | |
| 0647 | Shearwater | 1 | W | | |
| 0720 | " | 1 | | | large |
| 0721 | " | 1 | | | large |
| 0730 | NO | | | | |
| To | observation | | | | |
| 0750 | | | | | |
| 0820 | Booby | 3 | SW | | } Blue-footed (not blue-footed) or Brown? |
| 0820 | " | 1 | NE | | |
| 0820 | " | 4 | SW | | |
| 0821 | " | 1 | SW | | looked like Blue-footed but light very bad |
| 0825 | " | 5 | SW | | From the large size & flight pattern I suspect these are Blue-footed Boobys, but I can't be sure till I get a good look. |
| 0826 | Blue-foot Booby | 1 | SW | | |
| 0827 | Booby Shearwater | 1 | " | | |
| 0828 | Booby | 2 | " | | |
| 0828 | Booby | 2 | " | | |
| 0828 | Tern | 1 | " | | |
| 0828 | Booby | 3 | " | | |
| 0829 | Booby | 1 | " | | |
| 0830 | " | 3 | " | | |
| " | " | 1 | " | | |
| " | " | 3 | " | | |
| 4 | " | 4 | " | | |
| " | " | 2 | " | | |
| 0831 | " | 1 | " | | |
| 0831 | Tern | 1 | " | | |
| 0831 | Shearwater | 1 | NE | | |



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

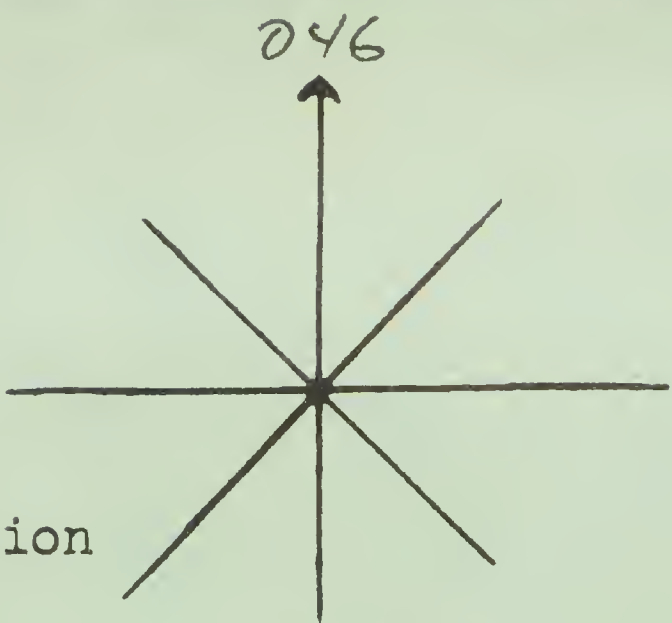
OBSERVERS:

P. J. Gould

Date 07 July 1967
Pg. # 2

SPECIMEN
or

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|------|---|----|-----------------------|----------|---|
| 0832 | Booby | 5- | SW | | |
| 0833 | Tern Shearwater | 1- | NE | | white below To the best that I can judge |
| 0834 | Booby | 1- | SW | | in this poor light (glare from sun off of |
| 0834 | " | 1- | " | | smooth water) there are Blue-footed ^{Brown} |
| 0834 | " | 3- | " | | Boobies - all are in the sun and by |
| 0835 | Tern | 1- | NE | | the time I can see them away from the |
| 0843 | Booby | 1- | SE | | sun they are too far away to identify. some |
| 0846 | " | 1- | S | | are coming within 5000 yards of the ship. |
| 0850 | Booby | 1- | | | |
| 0900 | Brown Booby | 2- | | Ad | [on back of Turtle] all sitting on log big turtle beneath water |
| | Red-footed Blue-footed Booby? | 2- | | Ad | |
| | Booby | 2- | | Imm | |
| 0909 | Blue-footed Booby | 1- | SW | Ad | |
| 0911 | Booby | 4- | SW | | |
| 0911 | Shearwater | 1- | ⊙ | | white below, chunky. looked like Townsend |
| 0915 | Booby | 1- | SW | | but light poor |
| 0916 | " | 1- | SW | | [0911 - turtle] |
| 0924 | Shearwater | 1- | ⊙ | | flew like Townsend, but could only see silhouette. |
| 0924 | Booby | 4- | SW | | silhouette like Townsend. |
| 0932 | Tern | 1- | ⊙ | | feeding - over school of fish (Tuna?) |
| 0932 | Shear/pet | 1- | ⊙ | | |
| 0934 | Shearwater Brown Booby | 1- | n H ₂ O | Ad J | |
| 0940 | Brown Booby | 1- | n H ₂ O | | sitting on a turtle |
| 0944 | Booby | 1- | n H ₂ O | | " " " " |
| 0944 | Storm Petrel | 1- | ⊙ | | |
| 0944 | " | 1- | ⊙ | | |
| 0950 | Townsend? Shearwater | 6- | n H ₂ O | | |
| 0950 | Storm Petrel | 1- | ⊙ | | |



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. Gould

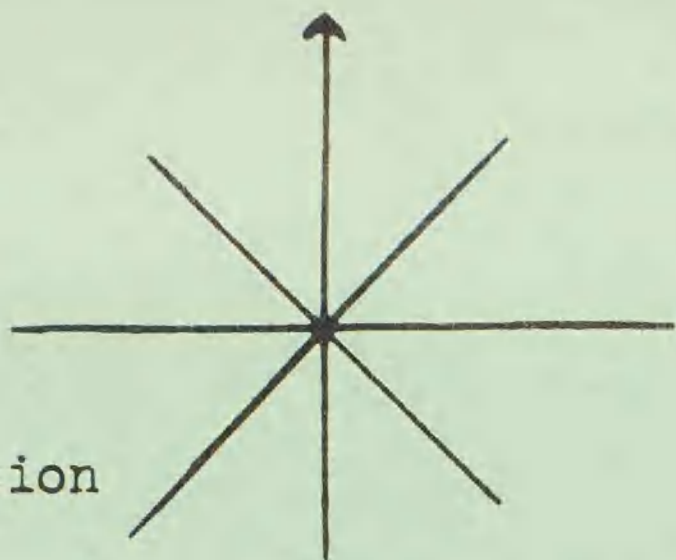
Date 07 July 1967
Pg. # 3

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

| | | | | | |
|--------------------|------------------------|-----------|------------------------|---------------------|---|
| 0950 | Shearwater | 4 - | m H ₂ O | | |
| 0952 | Booby | 1 - | m | | |
| | Shearwater | 2 - | H ₂ O | | |
| 0955 | Sooty Tern | 1 - | | | sitting on a Turtle |
| 0950 to 1015 | Flock | | | | Feeding, actively |
| | Porpoise | 200 ± | | | large school of spinner Porpoise |
| | Brown Booby | 600 ± 700 | | | sea feeding, |
| | Sooty Tern | 300 ± 50 | | not ca 80% adult | |
| | Townsend Shearwater | 150 ± 25 | | | at least 4 immatures seen One Brown Booby appeared to have a yellow leg streamer. |
| 1027 | Brown Booby | 2 - | SW | | |
| 1027 | Townsend Shearwater | 3 - | m H ₂ O | Ad | |
| 1030 | Brown Booby | 4 - | m H ₂ O | Ad. | |
| 1030 | Storm Petrel | 2 - | | | flew like Leach's |
| 1030 to 1420 | NO Obs. | | | | course change to 054 1422 = 2 turtles copulating |
| 1432 | Brown Booby | 2 - | | | |
| 1442 | " " | 6 - | | | |
| 1442 | Tropicbird | 2 - | | | |
| 1448 | Brown Booby | 3 - | | | |
| 1448 | Masked Shearwater | 2 - | on H ₂ O | | |
| 1445 | Red-footed Booby | 1 - | | | brown above, not much in way of white rump patches |
| 1445 | " " | 1 - | | | |
| 1445 | Brown Booby | 4 - | | | |
| 1445 | " " | 1 - | | | |

Ship
Direction



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date _____
Pg. # 87

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

1445 Brown Booby 1 ad

1450 " " 1 ad

1447 " " 5 ad, 1 imm

1447 sea snake (several were seen earlier since 1400)

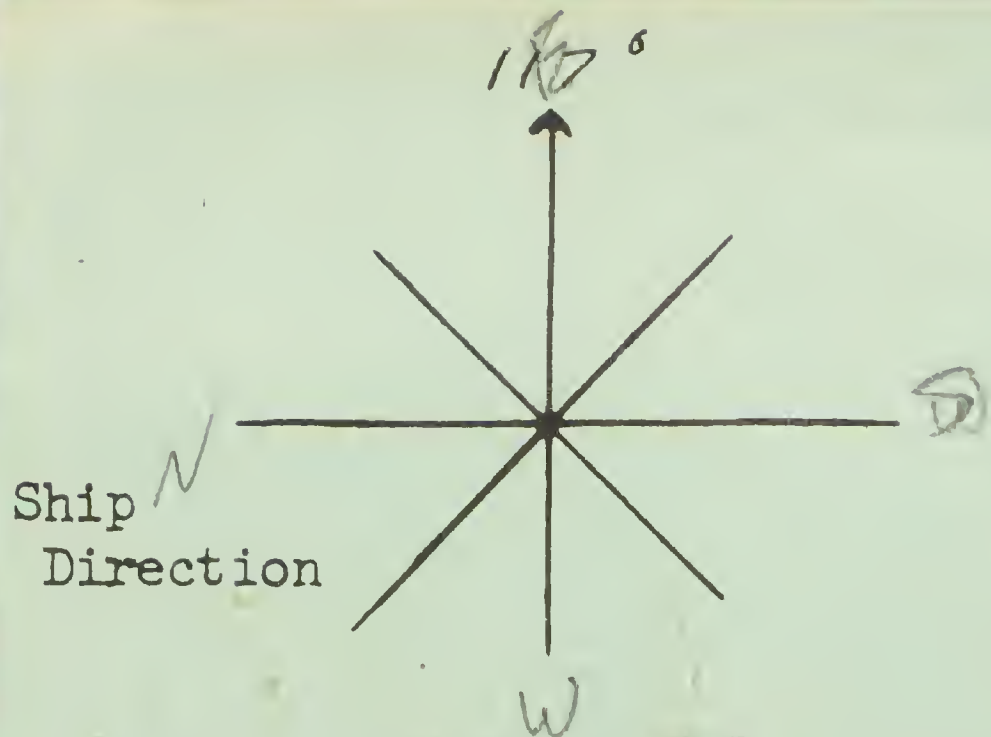
1506 Laughing Gull 1 ad in breeding plumage on tail

1520 " 1 " " " " "

several sea snakes & Brown Boobies, 1 imm, since ~~1500~~ 1500

1540 5 or 6 spotted Dolphin (Stenella graffmani)

followed ship for a few minutes



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

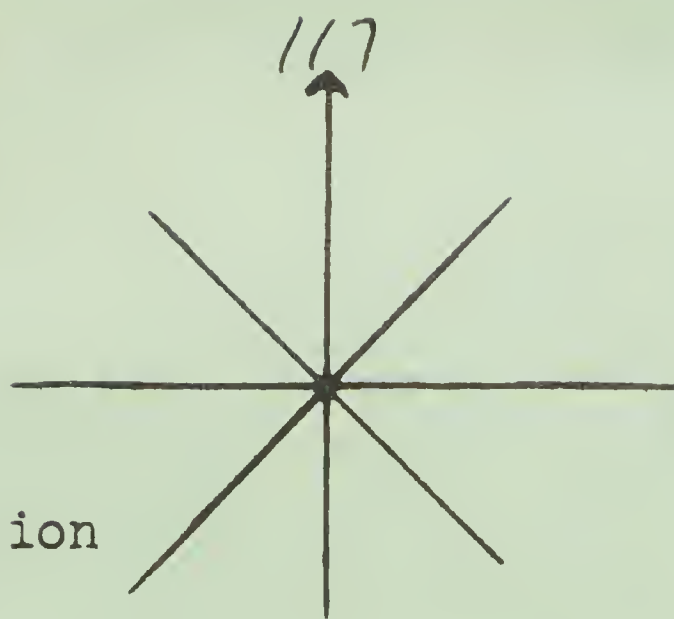
Date 10 July 1967
Pg. # 1

SPECIMEN
or

sunrise = 0522

begin observation = 0635

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|--------------------|---|--|------|------------------------|---|
| 0645 | Flock Booby Tern Shear/ water | 20±5 20±10 ±20 175 | | | actively feeding Probably Brown Booby Probably Sooty Tern Flew like & were right size for Manx. Poor light, all flocks even seen was silhouette |
| 0714 | Flock Shearwater | 24±2 | ⊙ | | [0650 - 0710 = rain squall] Flew like & were right size & shape for Manx Probably feeding |
| 0730 | Parasitic Laysan Fairy | 1- | ⊙ | | |
| 0740 | Manx Shearwater | 1- | ⊙ | | |
| 0746 TO 0758 | no obs. | | | | |
| 0805 | Booby | 1- | → | | |
| 0808 | many Shearwater | 3- | ↙ | | |
| 0809 | Brown Booby | 1- | → | | |
| 0812 | " | 1- | → | | |
| 0814 | " | 1- | → | | |
| 0815 | Trigate | 1- | → | | |
| 0818 | Brown Booby | 1- | ↘ | | |
| 0819 | many Shearwater | 1- | ↘ | | |
| 0820 | " " | 6- | | | circling then lit, one by one, near each other on water |
| 0824 | " " | 3- | → | on H ₂ O | |
| 0829 | " " | 2- | ↖ | | |
| 0830 | " " | 1- | ← | | |
| 0830 | Brown Booby | 1- | ← | | |



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

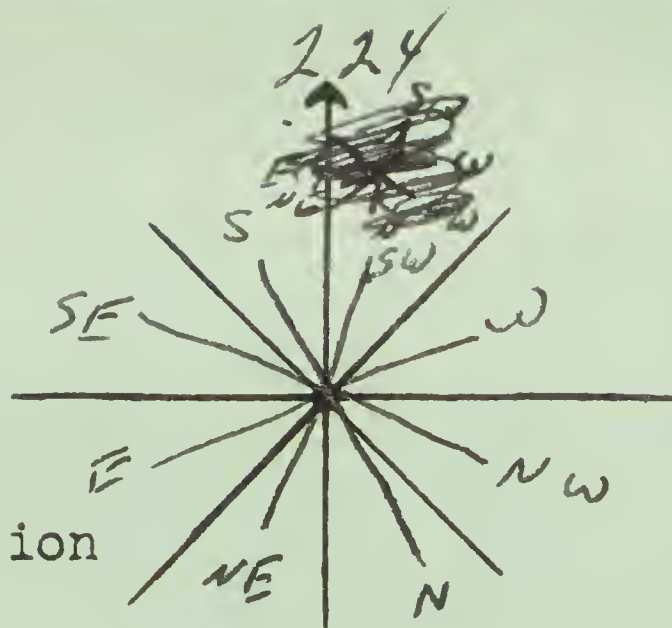
1/2 Gould

Date *10 July 1967*
Pg. # *2*

SPECIMEN
or

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|--------------------|-----------------|-------|---------------------|------------|---|
| 0831 | Booby | 1 | → | | |
| 0835 | Shearwater | 1 | ← | small | [0837 - Two Turtles copulating] |
| 0842 | Brown Booby | 1 | ⊙ | ad. | |
| 0850 | Booby | 5 | → | | |
| 0852 | Brown Booby | 2 | → | 1 ad, 1 im | |
| 0853 | Booby | 1 | ⊙ | | |
| 0856 to 0904 | Flock | | | | Feeding |
| | Brown Booby | 20±5 | | | |
| | Sooty Tern | 2 | | | 1 ad, 1? |
| | Manx Shearwater | 75±10 | | | dark brownish backs. This color is again achieved like newells |
| 0905 to 1350 | no obs | | | | |
| 1400 | Brown Booby | 1 | | | Immature - all brown color |
| 1405 | Sabine's Gull | 22 | on H ₂ O | | all adults but only 2 had black heads |
| 1413 | Brown Booby | 1 | on H ₂ O | ad. | |
| 1416 | " " | 1 | on H ₂ O | ad | |
| 1422 | Sooty Tern | 1 | sitting | | standing on head of Turtle |
| 1449 | Brown Booby | 1 | ↓ | ad. | |
| 1454 | " " | 1 | → | ad. | [1432 = Turtle] |
| 1456 to 1710 | no obs. | | | | |

Secure Watch 1730



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. Gould

Date 11 July 1967
Pg. # 1

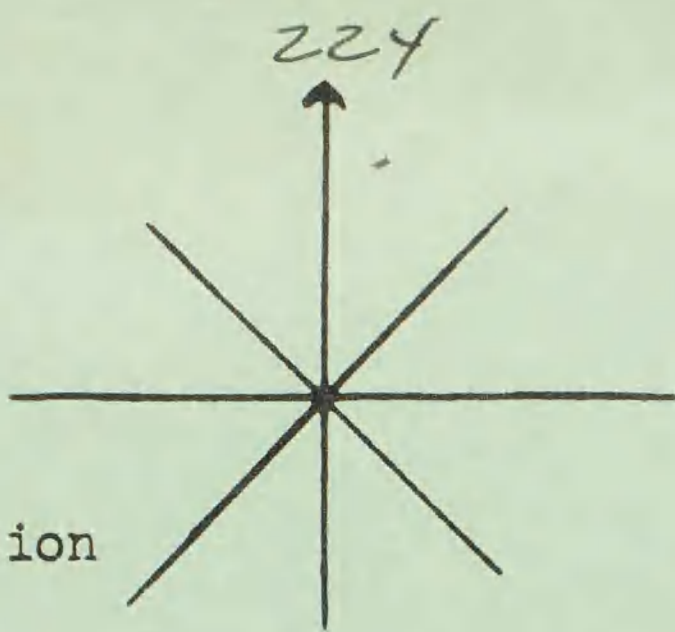
SPECIMEN
or

sunrise = 0519

begin observations = 0510

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|--------------------|-----------------------|--------|---------------------|----------|---|
| TO 0519 | Ship stopped | | | | Immature Brown Booby flying around ship since 0455, landed on antenna 0515. Ship stopped for oceanographic station till 0519. Slow speed for Plankton tow till 0543 |
| 0519 | Brown Booby | 1 | on antenna | | |
| 0524 | Brown Booby | 4 | ⊙ Imm. | | |
| 0530 | Booby | 3 | ⊙ | | Booby on Antenna flew out to join 4 Boobys at 0524 and departed with them |
| 0535 | Booby | 5 | | | Joined previous 4 |
| Full Speed at 0543 | | | | | |
| 0550 | Booby | 3 | ⊙ | | black & white, smaller than Boobys reported by weather man. |
| 0550 | Booby | 1 | ⊙ | | |
| 0550 | Bird | 10 ± 3 | on H ₂ O | | |
| 0552 | Shear/Pet | 2 | ⊙ | | |
| 0559 | " " | 1 | SW | | |
| 0605 | Red-footed Booby? | 3 | SW | | white below, mostly light wings tail |
| 0610 | " | 1 | " | | head & neck white, back & belly white, red from neck |
| 0616 | " | 1 | " | | joined above 3 subadult |
| 0616 | Wedge-tail Shearwater | 1 | W | | joined above 1 |
| 0635 | Bird | 2 | S | | light phase |
| 0646 | Least Shear Petrel | 1 | SW | | white below, small ship vibrating so much. I can't hold binoculars still |
| 0700 | Shearwater | 1 | ⊙ | | |
| 0701 TO 0720 | NO OBS | | | | |

Ship
Direction



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

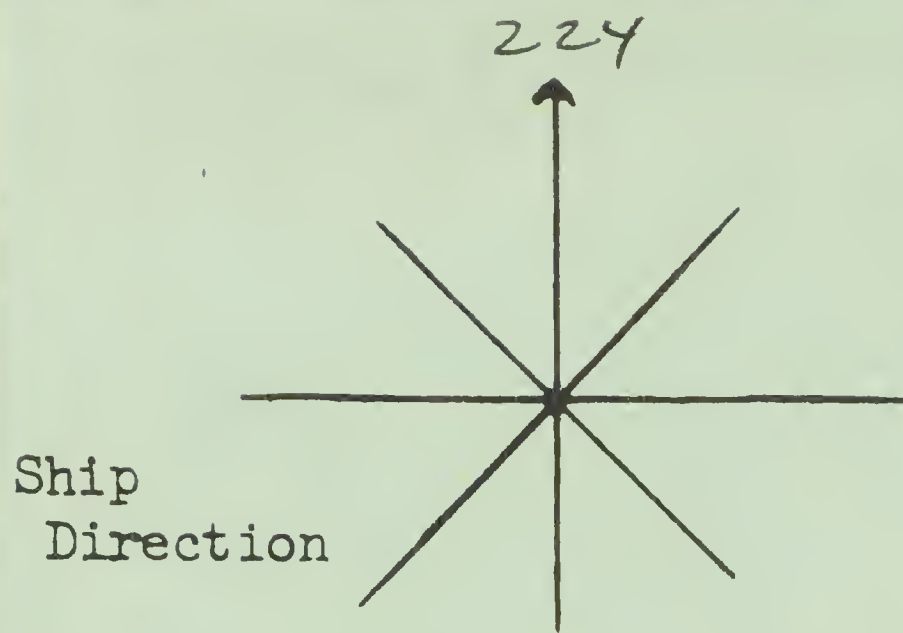
V. J. Gould

Date 11 July 1967
Pg. # 2

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

| | | | | | |
|------|-----------------------|---|------|--|--|
| 0730 | Pterodroma | 2 | | | a white below |
| | " | 1 | S | | all dark + larger than above two |
| 0739 | Leach Petrel | 4 | → SE | | |
| 0745 | NO | | | | |
| 0815 | Observed. | | | | |
| 0820 | Leach Petrel | 3 | → S | | |
| 0823 | " | 1 | ⊙ SE | | |
| 0825 | Sooty Tern | 1 | red | | } Feeding |
| | Pterodroma | 1 | | | |
| | Shear/Pet | 1 | | | |
| 0828 | Phalarope | 4 | NE | | traveling |
| 0849 | Juan Fernandez Petrel | 2 | ⊙ | | |
| 0855 | Shear/Pet | 2 | SE | | small, white below, back green = dark Shearwater |
| 0858 | Wedge-Tail Shearwater | 1 | SE | | dark phase |
| 0900 | Terns | 2 | E | | Probably Sooty Tern |
| 0901 | Pomarine Jaeger | 2 | ⊙ | | light phase |
| 0902 | Leach Petrel | 1 | ⊙ | | |
| 0912 | " | 1 | ⊙ | | |
| 0915 | Shear/Pet | 1 | ⊙ | | |
| 0919 | Juan Fernandez Petrel | 1 | N | | |
| 0939 | " | 1 | SE | | no molt apparent |



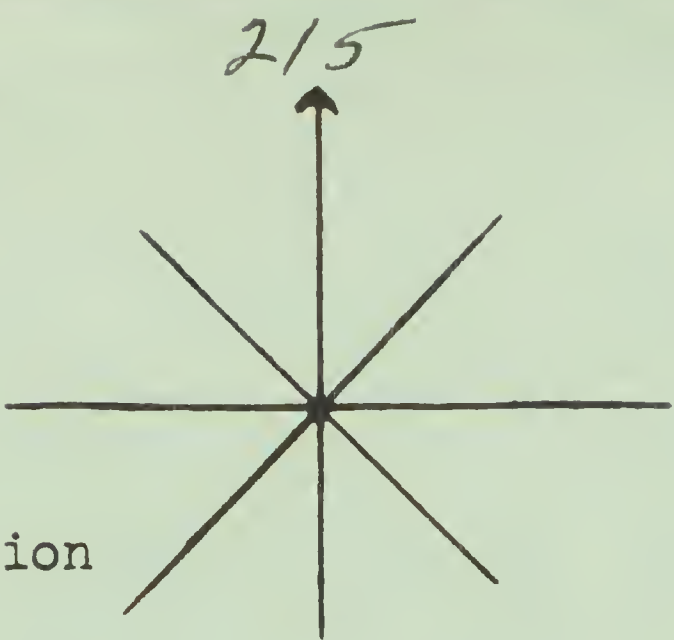
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. Goebel

Date 11 July 1967
Pg. # 3

| TIME | SPECIES | # | DIR. | SPECIMEN or BAND NO. | REMARKS |
|--------------------|-----------------------|-------|------|----------------------------|--|
| 0946 | Wedge-tail Shearwater | 1 | N | dark Phase | 0944 [2 turtles copulating, smaller one on top] |
| 0953 | Shear/Pet | 2 | S | | white below, large, but guess = from Tern only, Petrel |
| 0957 | Flock | | | | Foraging, & Feeding; |
| | Red-foot Brown Booby | 3 | NE | Imm | |
| | Jaeger | 1 | N | | joined flock while I was watching |
| | Masked Shear | 1 | ⊙ | | Immature body all dark brown but with |
| | Booby | 2 | ⊙ | | lighter brown bellie & definite line of |
| | Shear/Pet | 5 ± 2 | ⊙ | | delineation between breast & bellie |
| 1002 | Masked Shear. | 1 | ⊙ | | |
| 1008 | " " | 6 | N | | flashed by ship |
| 1009 | Wedge-tail Shearwater | 1 | E | dark Phase | |
| 1010 | Shear/Pet | 1 | E | | |
| 1010 | Shear/Pet | 1 | ⊙ | | |
| 1011 | " " | 1 | S | | small, white below |
| 1012 | " " | 1 | S | | large, " " |
| 1018 | Large Pterodroma | 1 | SE | | either from Tern only or a little-weed or Dark rumped |
| 1021 | Shear/Pet | 2 | S | | couldn't be seen about undulating - looked like it had a dark band - |
| 1030 TO 1400 | NO obs. | | | | |
| 1411 | Shear/Pet | 1 | E | | Course now 215 |
| 1413 | Wedge-tail Shearwater | 1 | E | dark Phase | |
| 1420 | " " | 1 | E | dark Phase | |
| 1421 | from Tern only Petrel | 1 | N | 1420 | |
| 1421 | " " | 1 | " | | |



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

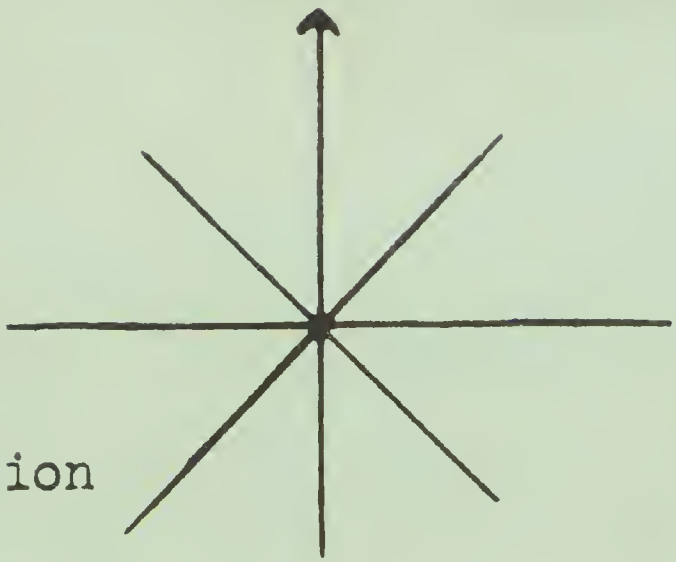
P. J. Gould

Date 11 July 1967
Pg. # 4

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

| | | | | | |
|-------------------------|-----------------------|------|---------------------|--------------|---|
| 1430 | wedge-tail shearwater | 3 | on H ₂ O | dark phase | |
| 1432 | " | 1 | ⊙ | _____ | Probably on H ₂ O - no molt apparent |
| 1432 | fronternody Petrel | 1 | ⊙ | _____ | Probably on H ₂ O - no molt apparent |
| 1436 | wedge-tail shearwater | 1 | E | dark phase | |
| 1437 | fronternody Petrel | 1 | E | _____ | molting |
| 1446 | " " | 30±5 | ⊙ | many molting | SCATTERED |
| 1446 1500 | Wedge-tail shearwater | 4 | ⊙ | dark phase | Scattered Flock many birds on water |
| 1500 | Small Pterodroma | 2 | ⊙ | | |
| 1500 | Booby | 1 | ⊙ | | Imm light brown all over (not Snow Booby) (most birds drifting East) |
| 1504 | Pomarine Jaeger | 1 | E | ad - | light phase |
| 1505 | fronternody Petrel | 2 | NE | _____ | no molt apparent |
| 1506 | Blue-face Booby | 2 | E | _____ | 1 ad, 1 sub ad. |
| 1509 | wedge-tail shearwater | 1 | E | dark phase | |
| 1509 | " " | 1 | E | " " | |
| 1515 | " " | 1 | ⊙ | " " | |
| 1518 | fronternody Petrel | 1 | ⊙ | | |
| 1522 | " " | 1 | ⊙ | | |
| 1524 | " " | 1 | ⊙ | | |
| 1536 | " " | 1 | ⊙ | | |
| 1537 | wedge-tail shearwater | 1 | E | dark phase | |
| 1540 | " " | 2 | on H ₂ O | " " | |



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Pf Gould

Date *11 July 1967*
Pg. # *5*

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

1542 Wedge-tail Shearwater 1- @ dark phase probably on H₂O

1543 Leach's Petrel 1- @ no apparent molt "

1544 Wedge-tail Shearwater 1- @ dark phase "

1546 Leach's Petrel 1- on H₂O

1548 Booby Shearwater 1- on H₂O

1551 Manx Shear. 1- E

1553 Leach's Petrel 1- on H₂O no apparent molt

1554 " " 1- on H₂O " " "

1555 " " 2- on H₂O molting

1556 Red-billed Tropicbird 1- E

1558 Leach's Petrel 1- E molting

1600 to 1727 no obs. High Lat. Gulls (all brown, not blue-faced) and.

1727 slow speed net tow

1734 Leach's Petrel 1- @

1735 " " 1- @

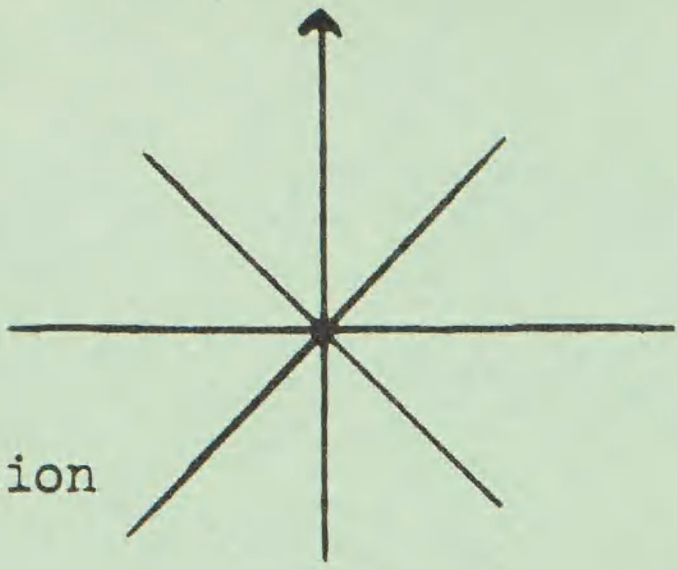
1738 Shear/Pet 1- @

1739 " " 1- @

1740 Booby 1- @ brown - all brown, later below & on head

1742 Booby 2- on H₂O " " " " " "

1748 Flock actively feeding high [Ship navigable] Low [computers were 2 miles from floor when it was first seen] SI-MNH-958-e
to 1802 Leach's Petrel 200±50
Shear/Pet 100±50 Probably also of F.P.'s. birds scattered widely among core of 200 active feeders. Rev. 5-66



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

[Signature]

Date 11 July 1967
Pg. # 6

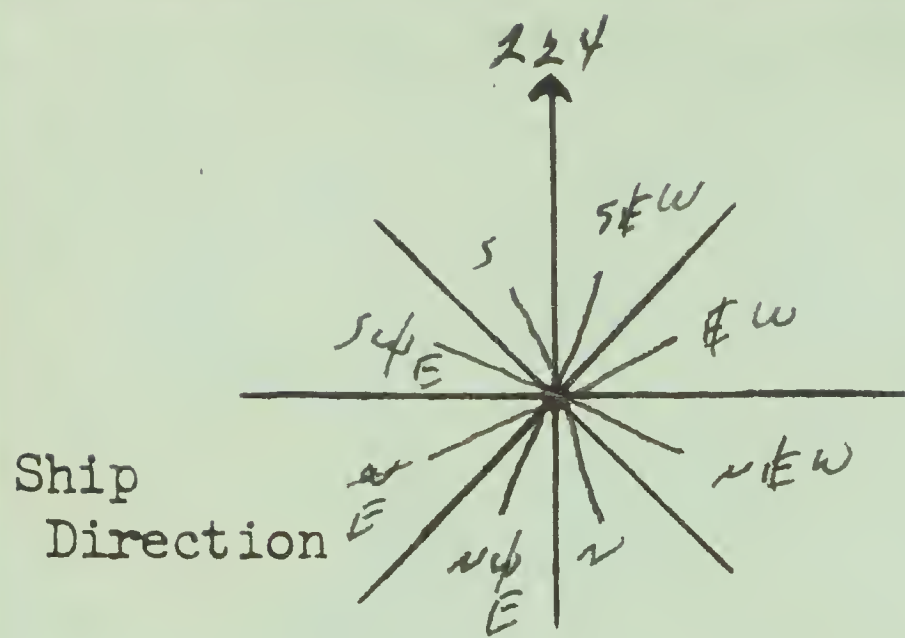
SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

| | | | | |
|------|-------------------|------------------------|---|----------|
| 1815 | Flock glau/pet | 102 1052 | ☉ | staching |
|------|-------------------|------------------------|---|----------|

Seas w/ ch 4 at sunset

1822



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. Gould

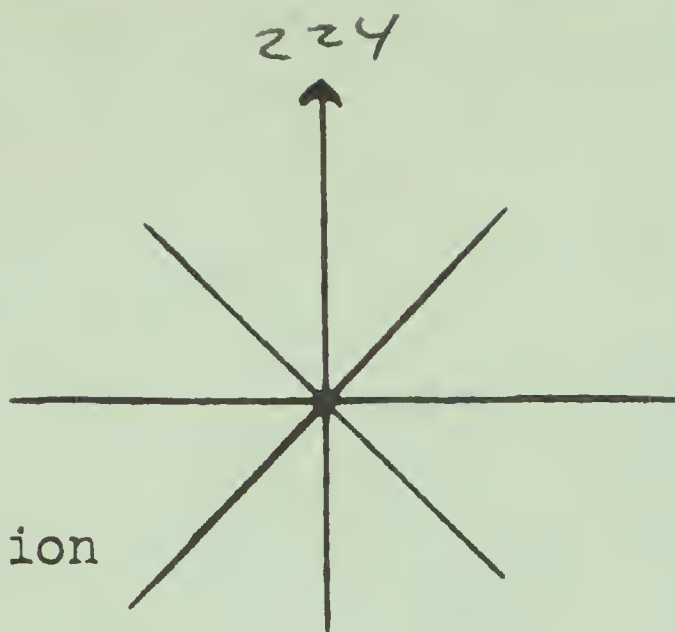
Date 12 July 1967
Pg. # 1

SPECIMEN
or

sunrise = 0529

TIME SPECIES # DIR. BAND NO. REMARKS *begin observation - 0605*

| | | | | | |
|-------------|-----------------------|-----|----|--|---|
| 0624 | Leach Petrel | 1 - | | | |
| 0630 | Flock | | | | |
| 0634 | Leach Petrel | 4 - | | | feeding [ship moving at ca. 10 knots so flock was ^{ca.} miles ahead when spotted. It probably could have been spotted at over one mile had been looking in right place. |
| | Shear/pet | 4 - | | | all dark, splashing on H ₂ O like wedge tail |
| 0638 | Leach Petrel | 1 - | ⊙ | | edge of rain squall. |
| 0641 | | | | | |
| ↑ | | | | | |
| rain squall | | | | | |
| ↓ | | | | | |
| 0700 | | | | | |
| 0717 | wedge tail shearwater | 3 - | NE | | 2 dark phase, 1 light phase |
| 0719 | Leach Petrel | 1 - | ⊙ | | |
| 0723 | " " | 1 - | ⊙ | | |
| 0730 | " " | 1 - | ⊙ | | molt apparent on upper tailcoverts, not in primary |
| | | 1 - | ⊙ | | no apparent molt |
| 0735 | no | | | | |
| to | | | | | |
| 0759 | Obs. | | | | |
| 0806 | Shear/petrel | 1 - | | | all dark - probably wedge tail sh. |
| 0839 | " " | 1 - | ⊙ | | |
| 0840 | wedge-tail shearwater | 1 - | NE | | dark phase |
| 0841 | " " | 1 - | NE | | " " |
| 0841 | " " | 1 - | NE | | " " |
| 0843 | wedge tail shearwater | 1 - | W | | " " |
| | Leach Petrel | 1 - | W | | |
| 0844 | Leach Petrel | 1 - | SE | | |
| 0844 | Leach Petrel | 1 - | WE | | no apparent molt |



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

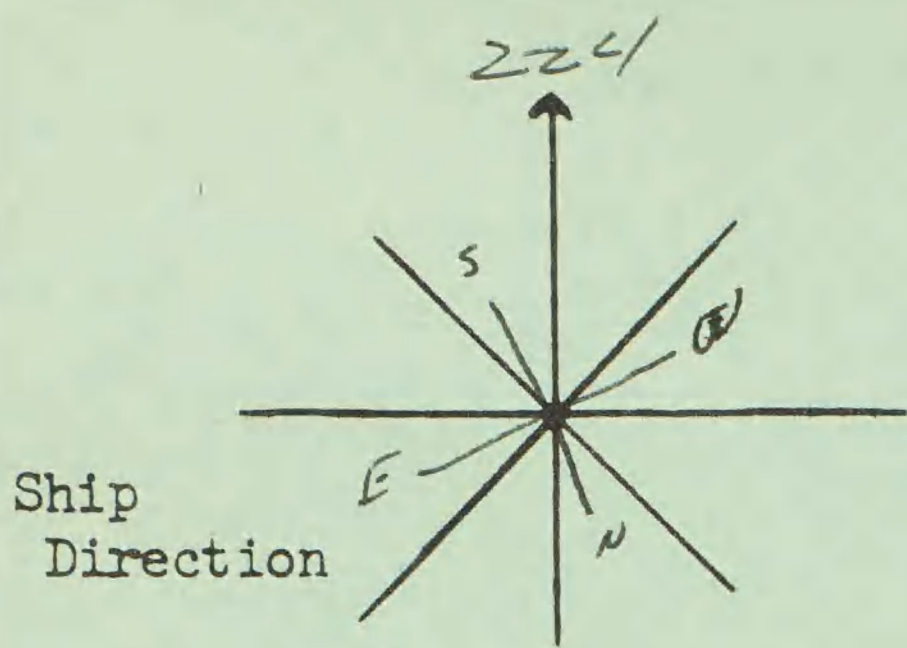
OBSERVERS:

P. Gould

Date 12 July 1967
Pg. # 2

SPECIMEN
or

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|-----------|-----------------------|----|---------------------|----------|--|
| 0900 | Juan Fernandez Petrel | 1- | ⊙ | | |
| 0900 | Kermadec Petrel | 1- | ⊙ | | dark phase |
| 0900 | Leach Petrel | 1- | on H ₂ O | | feeding on H ₂ O |
| 0928 | Juan Fernandez Petrel | 1- | NE W | | molt apparent |
| 0945 | " " | 1- | NE N | | |
| 1007 | Storm Petrel | 2- | ⊙ | | one (Leach's?, distinctly larger than the other least?) could not tell a white rump, |
| 1011 | Shear/Pet | 1- | NE W | | |
| 1011 | Leach Petrel | 1- | ⊙ | | |
| 1014 | Juan Fernandez Petrel | 1- | NE E | | body molt apparent, wing molt not apparent |
| 1019 | Storm Petrel | 1- | ⊙ | | |
| 1020 | Juan Fernandez Petrel | 1- | N | | |
| 1029 | " " | 1- | NE E | | |
| 1029 | Juan Fernandez Petrel | 1- | ⊙ | | molt ing |
| | Wedge-tail Shearwater | 1- | ⊙ | | light phase |
| 1030 | Leach Petrel | 1- | ⊙ | | |
| 1030 | " " | | | | |
| 10 | Obs | | | | |
| 1345 | | | | | |
| rain 1353 | Juan Fernandez Petrel | 1- | NE W | | Rain, rough seas, completely overcast, high wind |
| rain 1403 | Shear/Pet | 1- | NE W | | all dark |
| rain 1410 | " " | 1- | NE W | | white belly breast. |
| rain 1416 | Juan Fernandez Petrel | 1- | NE W | | |



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. J. Gould

Date 12 July 1967
Pg. # 3

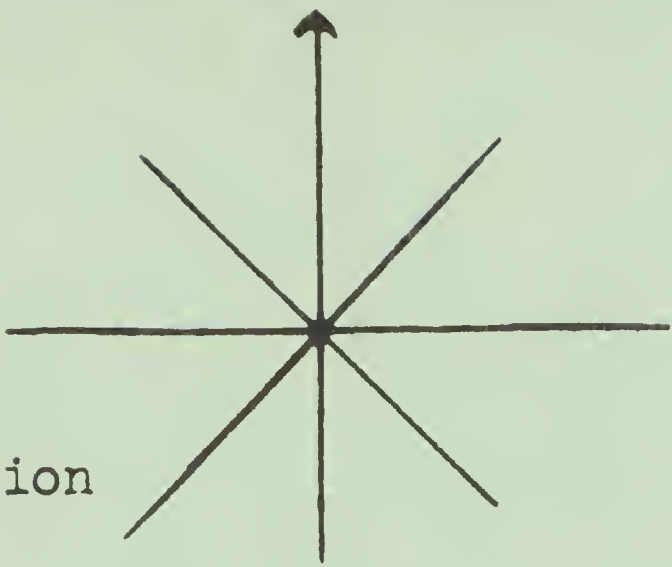
SPECIMEN

or

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|------------------------|-----------------------|----|---------------------|----------|-----------------|
| rain 1420 | Shear/Pet | 1- | NW | | |
| rain 1422 | wedge-tail shearwater | 1- | NW | | dark phase |
| rain 1424 | Shear/Pet | 1- | NW | | white below |
| rain 1424 | Murphy? Petrel | 1- | NW | | |
| rain 1428 | Juan Fernandez Petrel | 1- | SE | | |
| rain 1430 | " " | 1- | NW | | |
| rain 1433 | " " | 1- | NW | | |
| rain 1442 | wedge-tail shearwater | 1- | NW | | dark phase |
| rain 1452 | Juan Fernandez Petrel | 1- | SE | | molt |
| rain 1453 | Shear/Pet | 1- | NW | | |
| rain 1454 | Pterodroma | 1- | NW | | all dark |
| rain 1456 | Juan Fernandez Petrel | 1- | ⊙ | | molt |
| rain 1456 | " " | 1- | NW | | molt |
| rain 1459 | wedge-tail shearwater | 1- | ⊙ | | dark phase |
| rain 1500 | Juan Fernandez Petrel | 1- | N | | molt |
| rain 1503 | Pterodroma | 1- | NW | | all dark |
| rain 1508 | Shear/Pet | 1- | NW | | all dark |
| rain 1510 | " " | 1- | NW | | white below |
| rain 1510 | wedge-tail shearwater | 1- | NW | | dark phase |
| rain 1513 (3/10/14) | wedge-tail shearwater | 3- | NW | | dark phase |
| | Juan Fernandez Petrel | 3- | NW | | |
| " 1514 | wedge-tail shearwater | 9- | on H ₂ O | | dark phase |
| " 1514 | Pomarine Jaeger | 1- | ⊙ | | all light phase |
| " 1515 | Juan Fernandez Petrel | 1- | NW | | |

224

OBSERVERS:

Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 12 July 1967
Pg. # 4

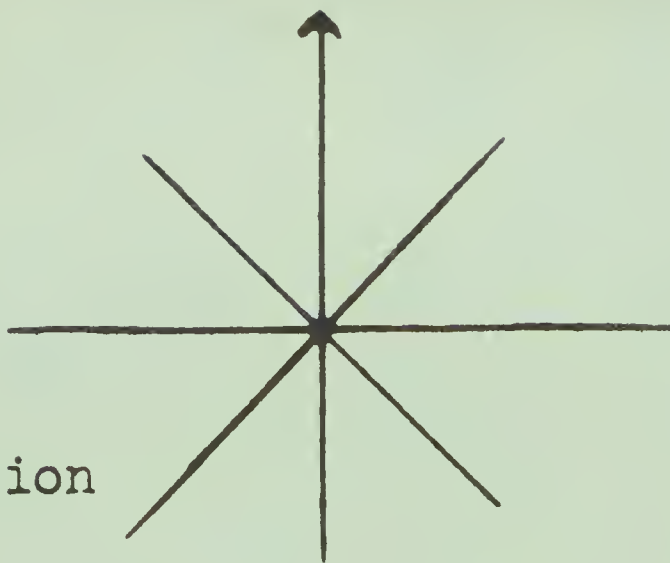
SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

| | | | | | | |
|------|--------------|------------------------|---------|------------------|--|--|
| rain | 1518 | shear/Pet | 1- | ☉ | | |
| " | 1519 | Laysan Pterodroma | 1- | ☉ | | white below |
| " | 1519 | juv. Fanny's Petrel | 1- | ☉ → NW | | |
| " | 1520 | Pink-footed Shearwater | 1- | m | | |
| " | 1520 | juv. Fanny's Petrel | 1- | H ₂ O | | well seen, pale bill, round tail, dorsal color lighter & more brown than wedge-tail (light blue) |
| " | 1533 | juv. Fanny's Petrel | 2- | ☉ | | both molting |
| " | 1536 | " " | 1- | ☉ | | |
| " | 1540 | Flock | | | | few |
| | | juv. Fanny's Petrel | 10 ± 3- | | | |
| | | Shearwater | 2- | | | all dark |
| | | shear/Pet | 10 ± 4- | | | mostly white below |
| " | 1600 | Heard ? Petrel | 1- | ☉ | | thin white irregular line through dark underwing - dark phase. |
| | 1601 to 1717 | no obs. | | | | |
| | 1735 | Shearwater | 1- | ☉ | | Full speed at 1730 white below |
| | 1742 | Socorro Petrel | 1- | ☉ | | no white what so ever, but flew like Leach's. |
| | | Least Petrel | 1- | ☉ | | 1/2 size of Socorro |
| | 1745 | Shear/Pet | 2- | N | | |
| | 1747 | Manx Shearwater | 1- | N | | |
| | 1749 | Shear/Pet | 2- | N | | |
| | 1753 | " " | 1- | N | | |
| | 1754 | " " | 1- | ☉ | | |
| | 1805 | " " | 1- | ☉ | | |
| | 1809 | juv. Fanny's Petrel | 1- | ☉ | | |

224

Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. J. Good

Date *12 July 1967*
Pg. # *5*

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

1814

Phoenix/
Tahiti

1-

NW

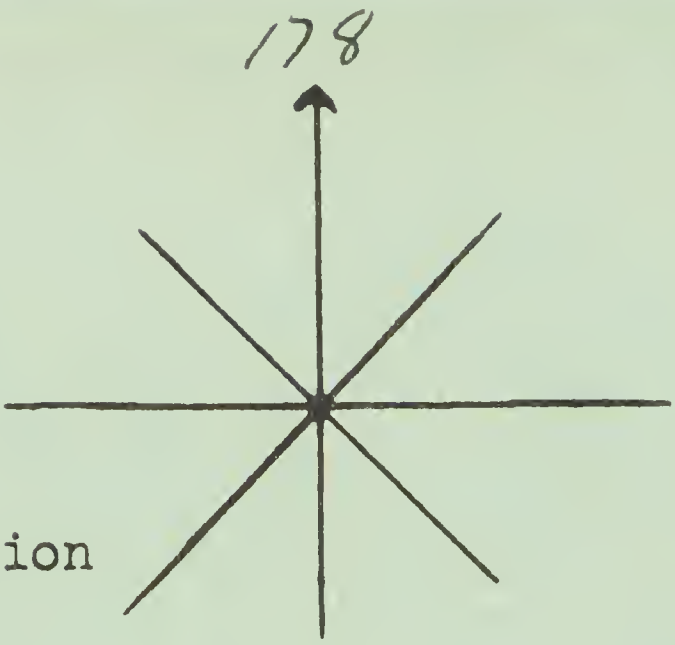
1922

frigatebird
Pele

1-

⊙

*See observation
at sunset 1825*



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. J. Gould

Date 13 July 1967
Pg. # 1

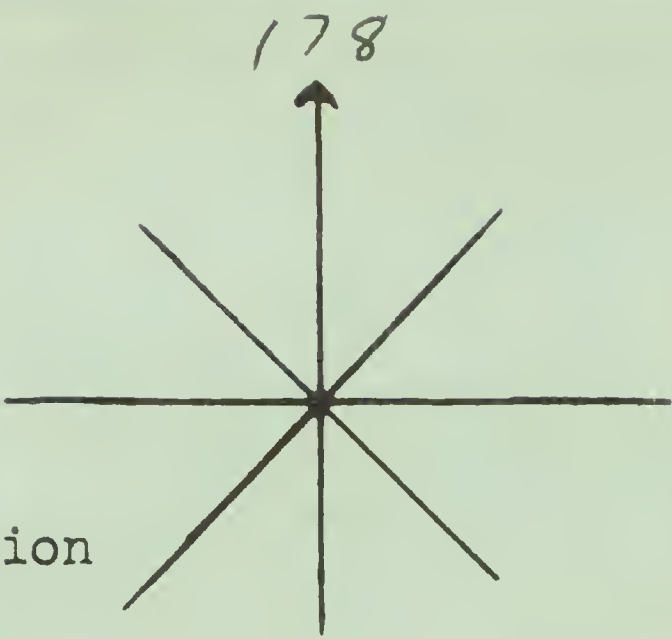
SPECIMEN

or

sunrise = 0540

begin observation = 0615

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|--------------------|-----------------------|------|------|------------------|---|
| 0637 to 0644 | Leach's Petrel? | 10±2 | ⊙ | Probably feeding | 0615 = slow speed for net tow 0637 = resume full speed |
| 0648 | Leach's Petrel | 1- | ⊙ | | all searching, but all scattered, the closest together being about 1/4 mile apart, the farthest over 1 mile. all probably once part of 0637 flock, but have split off and now searching as individuals. Not all are moving in same direction, but the general tendency for most is to drift S to SE → WTS moving like SFP's. |
| 0648 | " | 1- | ⊙ | | |
| 0648 | " | 1- | ⊙ | | |
| 0648 | " | 1- | ⊙ | | |
| 0648 | Leach's Petrel? | 1- | ⊙ | | |
| 0648 | " | 1- | ⊙ | | |
| 0654 | Wedge-tail Shearwater | 1- | SE | dark phase | Same as at 0648 but most of these birds have already passed SE where some can still be seen so these are (and new), there are probably more than this but I can't keep track of individuals → AS with SFP's |
| 0655 | " ? " | 1- | SE | dark phase | |
| 0655 | Leach's Petrel | 1- | SE | | |
| 0655 | " " | 1- | " | " | |
| 0655 | " ? " | 1- | " | " | |
| 0655 | " ? " | 1- | " | " | |
| 0700 | Wedge-tail Shearwater | 1- | " | dark phase | apparently part of above group no other birds in sight |
| 0700 | " " | 1- | " | dark phase | |
| 0706 | Leach's Petrel | 1- | SE | | |
| 0707 | " | 1- | SE | | 2- @ SE — dark phase |
| 0707 | " | 1- | SE | | |
| 0710 | Leach's Petrel | 2- | @ SE | | |
| 0710 | Wedge-tail Shearwater | 2- | @ SE | | |
| 0710 | Leach's Petrel | 1- | SE | | |
| 0710 | " | 1- | SE | | |



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. J. Gould

Date 13 July 1967
Pg. # 2

SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

0715 from Family Petrel 1- → SE (SEE)
Wedge-tail Shearwater 1- → SE (SEE) dark phase

0715 from Family Petrel 1- → SE (SEE)
Wedge-tail Shearwater 1- → SE (SEE) dark phase

0715 from Family Petrel 1- " "

0715 " 1- " "

0715 " 1- " "

0718 Flock ————— probably feeding;

to
0723 from Family Petrel 150 ± 25 (C)
Wedge-tail Shearwater 1- (C)
Wedge-tail Shearwater 30 ± 5 (C) — dark phase (~~dark phase~~)
Wedge-tail Shearwater 1- (C)

0725 from Family Petrel 10 ± 3 → SEE
Wedge-tail Shearwater 3 — " dark phase

0730 from Family Petrel 5 → SEE
Wedge-tail Shearwater 1 — " dark phase

0735 from Family Petrel 5 → SEE
" " "

0740 " 5 — " "

0745 from Family Petrel 1 — " "

0745 Wedge-tail Shearwater 1 — " "

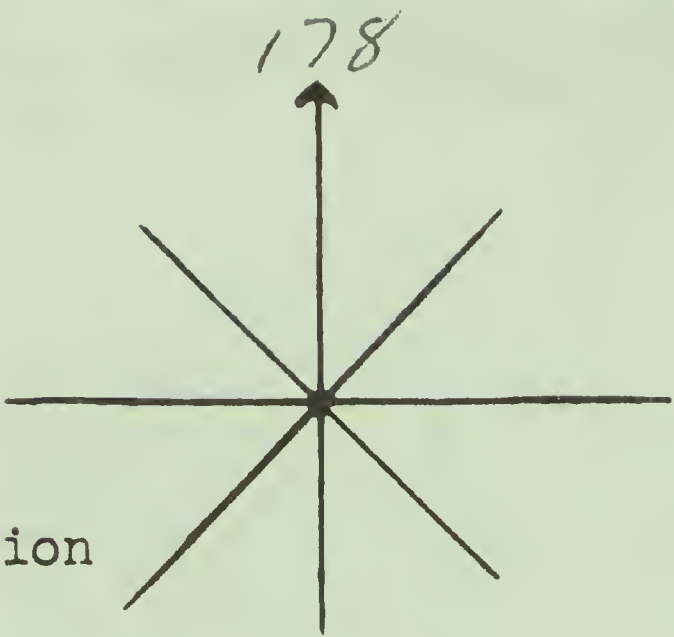
0748 from Family Petrel 4 — " "

0750 Flock Petrel 1 — (C)

searchy and
scattered birds probably see
ship oriented around central
flock.

There are all new birds that
keep coming up from behind
ship and disappear towards horizon
in front of starboard of ship

brown (dark) on back, black at wing tips
difficult black under wing border.



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

R. J. Gould

Date *13 July 1967*
Pg. # *3*

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

0752 *Momp* *Shearwater* 1- E → definite black under tail coverts

0752 *Leach Petrel* 1- E → S → moulting

0755 " 1- ~~→~~ ~~→~~

0755 " 1- ~~→~~ ~~→~~

0755 *Leach Petrel* 1- ~~→~~ ~~→~~

} at 0800 one *Leach Petrel* sit on the water
The *Leach Petrel* then flew over and sit beside
the TFR for several minute then the LSP
flew off. The second TFR was still flying
among the general area.

These birds not acting like previous ones
in that they are not continuously moving in one
direction. no birds are seen from the NW
now

0807 TO 0816 Flock *Leach Petrel* 40 ± 5- may be fairly but birds widely
scattered, not drifting but staying in
same general area

Wedge-tail Shearwater 30 ± 5- *Leach P*

Sooty Petrel 2-

Leach Petrel 1-

0820 TO 0823 *Leach Petrel* 10 ± 2-

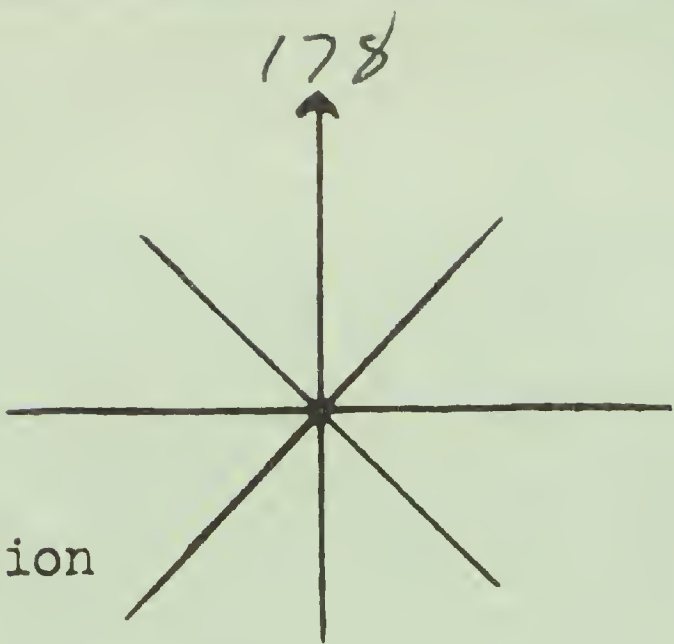
Momp Shearwater 1-

Pink-footed Shearwater 1-

Wedge-tail Shearwater 1- *Leach P*

scattered
not a true flock?
maybe searching flock

Ship
Direction



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. J. Gould

Date *13 July 1967*
Pg. # *4*

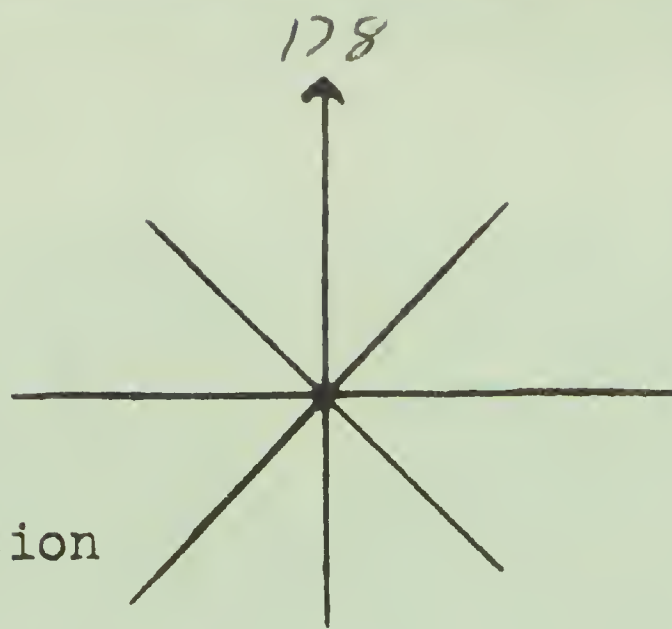
SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

| | | | | | |
|--------------------|-----------------------|----|----------|--|--|
| 0828 | Leach Petrel | 1- | ☉ | | |
| 0830 | Wedge-tail Shearwater | 1- | ☉ | | dark phase - all dark phase wedge-tails |
| 0834 | Leach Petrel | 2- | S | | today have had grey wing linings, or tan dark on the way the light struck the surface, but that stood out clearly when the sun reflected off them. |
| 0839 | " | 1- | ☉ | | |
| 0840 | " | 2- | m 420 | | |
| 0840 | Wedge-tail Shearwater | 1- | ☉ | | dark phase |
| 0844 | Leach Petrel | 1- | SE → | | |
| 0845 70 0913 | no obs. | | | | |
| 0914 | Leach Petrel | 1- | ☉ | | |
| 0925 | Leach Petrel | 1 | on | | |
| | Leach Petrel | 4 | 1430 | | Together flocked by 5 birds |
| 0928 | Leach Petrel | 2- | ☉ | | |
| 0931 | Leach Petrel | 4- | m 420 | | |
| 0931 | Leach Petrel | 1- | ☉ | | |
| 0934 | Leach Petrel | 1- | m 420 | | |
| 0945 | Flock | | | | not feeding |
| | Leach Petrel | 4- | ☉ | | |
| | Wedge-tail Shearwater | 9- | ☉ | | dark phase |
| | Leach Petrel | 1- | ☉ | | |
| 0951 | Leach Petrel | 2- | ☉ | | |
| 0951 | Leach Petrel | 2- | ☉ | | |

Ship
Direction



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

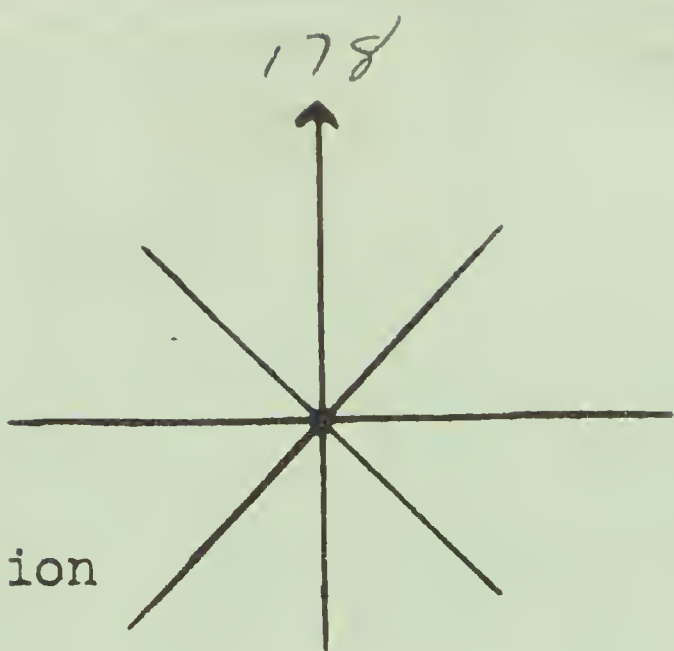
P. Gould

Date 13 July 1961
Pg. # 5

SPECIMEN
or

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|--------------------|-----------------------|----|--------------------|----------|--|
| 0959 | Leak Petrel | 1- | ⊙ | | |
| 1010 | | | | | <i>sperm whale (less than 10 ft long)</i> |
| 1015 | Shear/Pet | 1- | ⊙ | | |
| 1020 | " " | 1- | ⊙ | | <i>color appeared grey lighter below, not moving</i> |
| 1025 | Wedge-tail Shearwater | 1- | → E | | <i>dark phase</i> |
| | Leach's Petrel | 1- | → E | | |
| 1029 | Shear/Pet | 1- | ⊙ | | |
| 1030 To 1340 | no obs. | | | | |
| 1343 | Leach's Petrel | 1- | ⊙ | | <i>Probably on H₂O</i> |
| 1346 | " | 1- | ⊙ | | |
| 1347 | " | 1- | ⊙ | | |
| 1403 | " | 1- | m H ₂ O | | |
| 1404 | " | 1- | → E | | <i>molt, in 7</i> |
| 1414 | " | 1- | ⊙ | | |
| 1418 | Wedge-tail Shearwater | 1- | E | | <i>dark phase</i> |
| 1419 | Leach's Petrel | 2- | → E | | |
| 1425 | Leach's Petrel | 2- | ⊙ | | |
| 1425 | Sooty Petrel | 1- | ⊙ | | <i>difficult deep-bodied bird, no white.</i> |
| 1429 | Leach's Petrel | 1- | → E | | <i>molting</i> |





SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

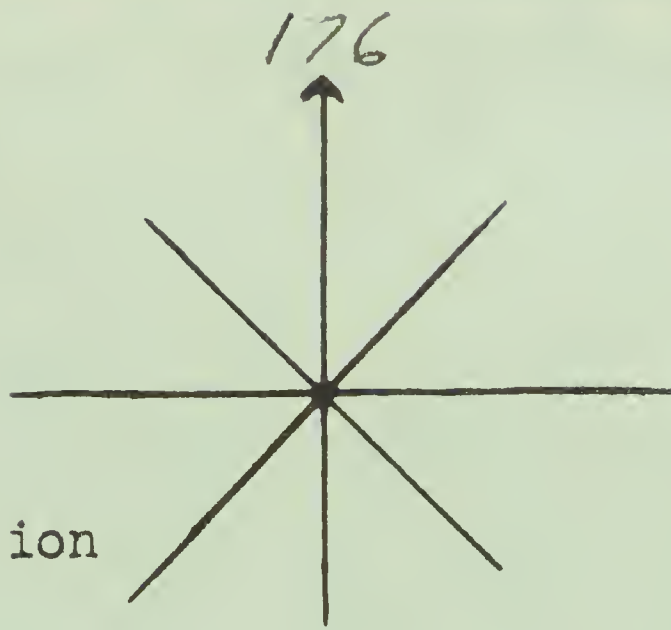
P. J. Gould

Date *13 July 1967*
Pg. # *6*

SPECIMEN
OR

TIME SPECIES # DIR. BAND NO. REMARKS

| | | | | | |
|------|---------------------------------------|-----|------------------------|--|--|
| 1429 | Leach Petrel | 1 | → S | | |
| 1431 | Juan Fernandez Petrel | 1 | m H ₂ O | | flushed by ship, no apparent molt |
| 1435 | " | 1 | ⊙ | | both probably on H ₂ O originally |
| 1435 | " | 1 | ⊙ | | |
| 1436 | Leach Petrel | 1 | ⊙ | | |
| 1437 | Juan Fernandez Petrel | 1 | → NE | | no apparent molt |
| 1446 | " | 1 | m H ₂ O | | |
| 1447 | Leach Petrel | 1 | → E | | |
| 1447 | Shear/Pet | 1 | | | while below ca 1 1/2 miles distant |
| 1453 | Pink footed Shearwater | 1 | | | |
| 1458 | Porpoise "Spinner"? | 20+ | | | fairly scattered |
| 1500 | Juan Fernandez Petrel | 1 | → E | | molted |
| 1500 | " | 1 | | | in distance |
| 1505 | " | 1 | on H ₂ O | | heavy molt |
| 1505 | Leach Petrel | 1 | ⊙ | | |
| 1510 | Leach Petrel | 1 | → E | | |
| 1516 | Juan Fernandez Petrel | 1 | ⊙ | | |
| 1526 | " " | 1 | → NE | | molted |
| 1526 | " " | 1 | ⊙ | | molted |
| 1530 | Pink footed or ashy footed Shearwater | 1 | → SE | | probably Pink-footed |
| 1541 | Juan Fernandez Petrel | 1 | on H ₂ O | | carrying something, which it would throw around in the water and then swallow. it took exactly 63 seconds to reach the bird from the time I spotted it & the ship is moving at 12.1 knots. |
| 1545 | " " | 1 | → SE | | |
| 1550 | Shear/Pet | 1 | NE | | |
| 1553 | Juan Fernandez Petrel | 1 | ⊙ | | |
| 1554 | Shear/Pet | 1 | ⊙ | | |



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

17 f. Gould

Date 13 July 1967
Pg. # 7

SPECIMEN
or

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|--------------------|----------------------------------|---------|---------------------|----------|--|
| 1600 | Lesser Frigatebird | 1- | ⊙ | | |
| 1600 | Leach Petrel | 1- | ⊙ | | |
| 1601 to 1703 | no obs. | | | | |
| 1704 | Lesser Frigatebird | 1- | ⊙ | | 1703 slow speed for net tow |
| | Petrel | | | | chasing small fish which were jumping out of water |
| 1720 | Lesser Frigatebird | 1- | | | |
| | Petrel | | | | |
| | Wedge-tail Shearwater | 2- | | | 1 dark phase } drifting E |
| | Wedge-tail Shearwater | 1- | | | 1 light " |
| | White-rumped Storm Petrel | | | | flashed Wilson's |
| 1724 | Lesser Frigatebird | 1- | NE | | molted |
| 1728 | " " | 2- | NE | | no apparent molt |
| 1740 to 1744 | Flock | | | | 1729 resume full speed |
| | Lesser Frigatebird | 15 ± 2- | | | searching |
| | Petrel | | | | took two minutes at 11 knots to reach flock. |
| | Wedge-tail Shearwater | 1- | | | |
| 1750 | Flock | | | | searching |
| | Lesser Frigatebird | 40 ± 1- | | | |
| | Petrel | | | | |
| | Leach Petrel | 1- | | | |
| | Pink-footed Shearwater | 1- | | | |
| 1753 | Lesser Frigatebird | 2- | ⊙ | | |
| | Petrel | | | | |
| 1800 | Wedge-tail Shearwater | 2- | ⊙ | | dark phase |
| 1808 | Shear/Pet | 1- | on H ₂ O | | |
| 1820 | Leach Petrel | 1- | ⊙ | | |

Secure watch at
sunset 1823

176

OBSERVERS:

Ship
DirectionSMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - EDate 14 July 1967
Pg. # 1

SPECIMEN

or

Sunrise = 0547

TIME SPECIES # DIR. BAND NO. REMARKS

begin observations at = 0610

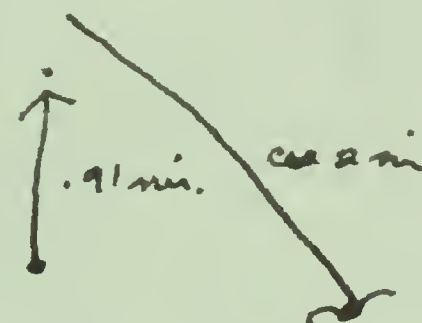
| | | | | |
|------|--------------------------|----|-----------------------|------------|
| 0615 | Levon Family Petro | 1- | → E 65 | |
| 0616 | " " | 1- | " " | |
| 0620 | " " | 1- | ⊙ | |
| 0623 | " " | 1- | → E to S | |
| 0623 | " " | 1- | " " | |
| 0623 | Shear/Pet | 1- | " " | |
| 0626 | Levon Family Petro | 2- | " " | |
| 0626 | " " | 1- | " " | |
| 0626 | " " | 1- | " " | |
| 0626 | " " | 1- | " " | |
| 0630 | " " | 1- | m H ₂ O | |
| 0634 | Wedge-tail Shearwater | 1- | → NE | dark phase |
| 0635 | Levon Family Petro | 1- | → E to S | |
| 0635 | " " | 1- | " " | |
| 0635 | " " | 1- | " " | |
| 0635 | " " | 1- | " " | |
| 0635 | " " | 1- | " " | |
| 0635 | " " | 1- | " " | |
| 0640 | " " | 1- | " " | |
| 0640 | " " | 1- | " " | |
| 0640 | " " | 1- | m | |
| 0645 | " " | 1- | H ₂ O | |
| 0650 | " " | 1- | " " | |
| 0650 | " " | 1- | E → 70 5 | |
| 0650 | " " | 1- | " " | |
| 0655 | " " | 1- | " " | |
| 0655 | " " | 1- | " " | |
| 0705 | " " | 1- | " " | |
| 0705 | " " | 1- | " " | |
| 0706 | " " | 1- | m | |
| 0710 | " " | 1- | H ₂ O | |
| 0710 | " " | 1- | E → 70 5 | |
| 0710 | " " | 1- | " " | |
| 0710 | " " | 1- | " " | |

Three birds are doing the same
as the bird yesterday morning



It takes perhaps five minutes at
most for a bird to spot behind ship
to catch up and cross the bow
ship is making, ca. 11 knots.

$$\frac{1}{60} = \frac{x}{5} \quad 60 \overline{) 55.000} \quad \begin{array}{r} .91 \\ 51 \\ \hline 100 \end{array}$$



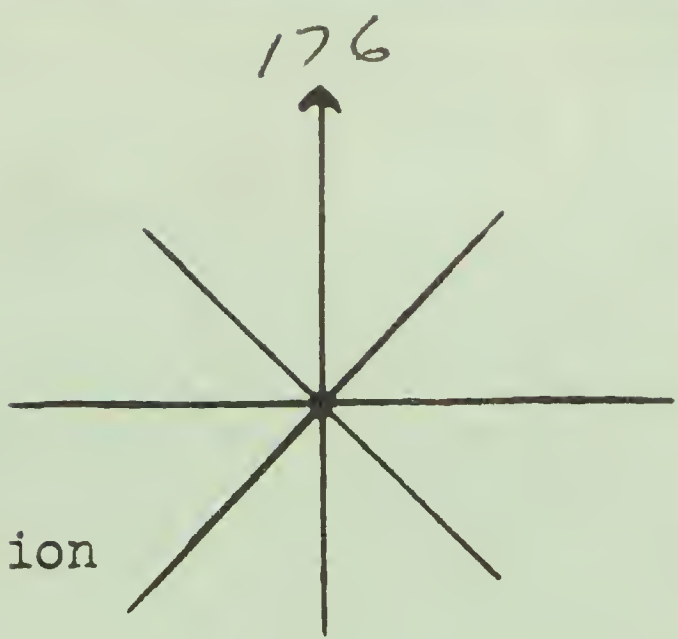
So the birds are
moving 2+ miles in the
time the ship moves 1 mile
which would mean a speed of ca. 25 knots
for the birds and they are moving at
what I would call a leisurely pace

at 0700 these two birds were ca 1/2 mile ahead
of ship, when first seen there were ca 1/2 - 2/3 mile
behind ship

25 MPH probably a fairly
good estimate of cruising
slight speed for the J.F.P.

SI-MNH-958-e

Rev. 5-66



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. Gould

Date *14 July 1967*
Pg. # *2*

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

0712 Flock
from *Fernand's*
Petrel? 20±5- feeding at least 1 to 1 1/2 miles away (west of ship)
can be seen when they turn their undersides

0712 from *Fernand's*
Petrel 1- 5 to E all were *P. externa*.
ca 2 miles from flock (ahead of ship)

0718 from *Fernand's*
? Petrel 2- 5 to E west of ship at same distance of flock but
flying away from it.

0723 *Kermadec*
Petrel 1- 5 to E dark phase

0723 from *Fernand's*
Petrel 1- " " "

0723 " " 1- " " "

0723 " " 1- " " "

0729 " " 5- " " " probably flushed from H₂O

0729 " " 1- " " "

0729 " " 1- " " "

0735 " " 1- " " "

0735 " " 1- " " "

0735 Common
Noddy
Tern 1- " " "

0739 NO

TO
0756 obs

0756 from *Fernand's*
Petrel 1- 5- E

0802 " " 1- " " "

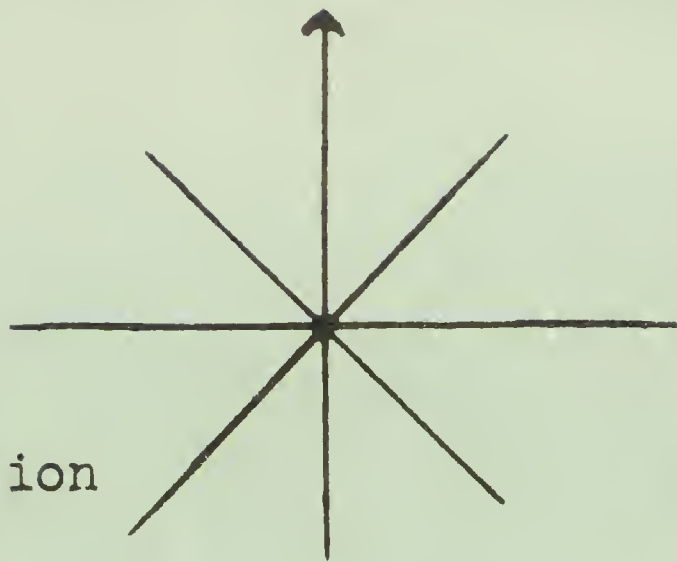
0805 Shear/Pet 1- " " "

0805 " " 1- " " "

0806 *Fernand's*
? Petrel 1- " " " flying, around over whale (constant)

Pilot whale 12± large spout
(black-fish)

176

Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

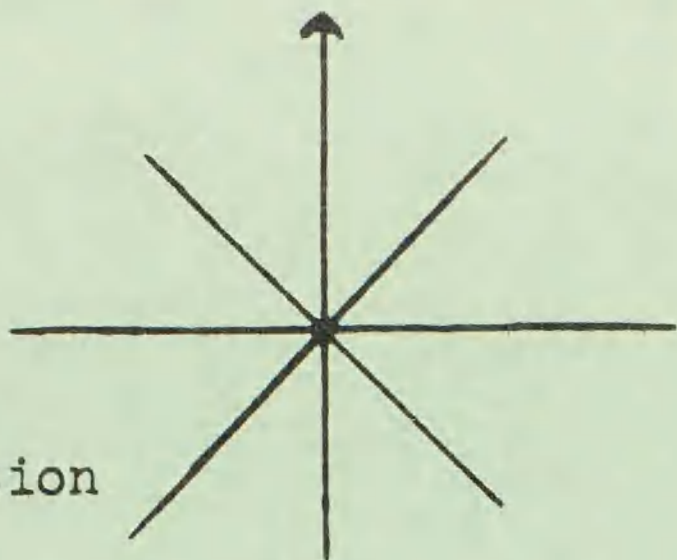
OBSERVERS:

Date 14 July 1967
Pg. # 3

SPECIMEN
or

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|------------|------------------------|-------|-----------------------|-------------------------------|---|
| 0815 | Blue-face Booby | 1- | @ | | Immature (1 st yr.) |
| 0816 | Leach's Petrel | 1- | @ | | |
| 0828 | " " | 1- | SW | | |
| 0832 | " " | 1- | SW | | |
| 0847 | " " | 8 ± 2 | n H ₂₀ | | |
| 0847 | " " | 1- | @ | | |
| 0847 | " " | 1- | @ | | |
| 0850 | " " | 1- | on H ₂₀ | | |
| 0921 | " " | 2- | " | | |
| 0930 To | NO | | | | |
| 0953 | obs. | | | | |
| 1030 To | NO | | | | |
| 1248 | Obs. | | | | |
| 1315 | Blue-face Booby | 1- | over ship | | Immature (1 st yr.) stayed around for 6 minutes |
| 1325 | Pink-footed Shearwater | 3- | WSW | | well seen, pale bill, flesh feet on one bird. |
| 1338 | Shear/Pet | 1- | on H ₂₀ | all dark | Flight differs from <i>P. pacificus</i> in that the wings are held straighter + stiffer, wing beats appear slower + more powerful (shorter stroke) otherwise without another species for size comparison they would very easily be mistaken for <i>V. pacificus</i> |
| 1341 | Leach's Petrel | 1- | " | | |
| 1405 | Blue-face Booby | 1- | @ | Imm. (1 st yr.) | |
| 1445 | Leach's Petrel | 1- | on H ₂₀ | | |
| 1450 | " " | 1- | SW | | |
| 1510 | " " | 1- | W | | |
| 1510 | Wedge-tail Shearwater | 1- | W | | dark phase |

Ship
Direction



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

V. Gould

Date 14 July 1967
Pg. # 4

SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

1545

no

70

yes

1705

1745

Levon Tern only
? Petrel

2-

→ S

slow speed for Plankton tow

1730 - resume full speed

} light
very good
for identification

1752

Wedge tail
Shearwater

1-

→ W

light phase - ~~dark phase~~

1754

Shear/Pet

1-

on
H₂O

white below

1801

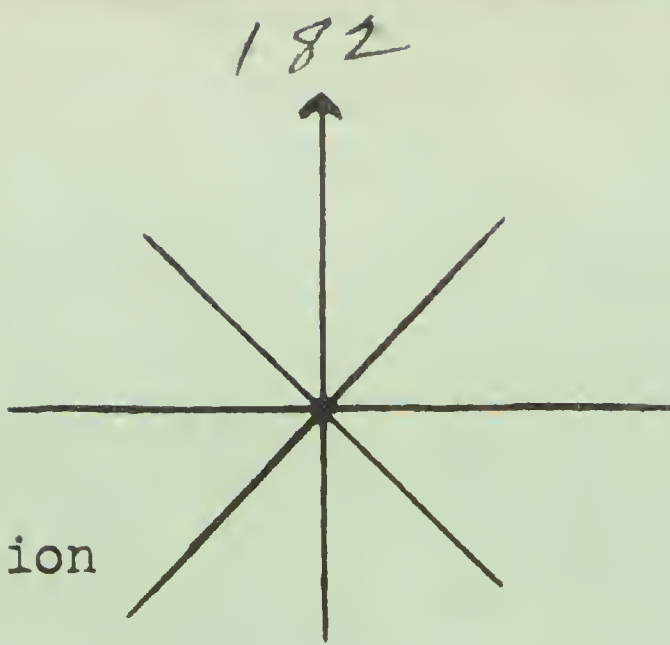
" "

1-

S →

" "

Secure observations
at sunset 1817



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. J. Gould

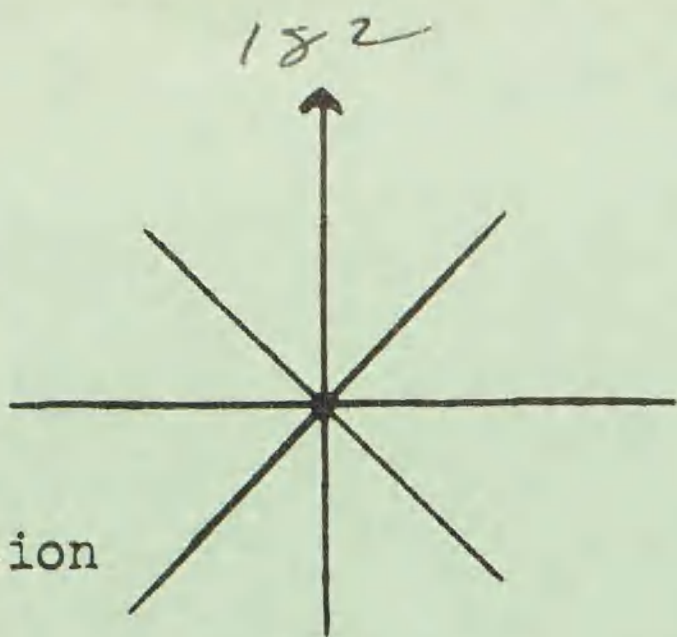
Date *15 July 1967*
Pg. # *1*

SPECIMEN
or

sunrise = 0550

begin observation = 0615

| | TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|------|--------------------|----------------------------|------|----------------------|---------------------|---|
| rain | 0638 | from Fennell's ? Petrel | 1- | W | | 0615 - ship resumes full speed after oceanographic station heavy overcast 0623 to 0645 rain 5 min 0710 to 0716 " |
| | 0648 | Leach/ Harcourt Pet | 2- | E | | |
| | 0650 | from Fennell's Petrel | 1- | W | | |
| | 0700 | from Fennell's Petrel | 2- | ⊙ | | |
| | | Collared Petrel | 2- | ⊙ | | |
| rain | 0714 | Shear/Pet | 1- | W | | |
| rain | 0715 | " " | 1- | W | | |
| | 0718 | from Fennell's Petrel | 1- | ⊙ | | no apparent molt |
| | 0722 | " " | 1- | W | | |
| | 0724 | Shear/Pet | 1- | | | |
| | 0730 to 0746 | NO obs. within | | | | |
| rain | 0834 | from Fennell's Petrel | 1- | ⊙ | | almost a steady light rain throughout this whole watch |
| rain | 0850 | Tern | 1- | SW | | |
| | 0851 | from Fennell's Petrel | 1- | SE | molt in Prinavia | all brownish, could be immature Sooty Tern but looked more like a Noddy. |
| | 1000 to 1400 | NO obs. within | | | | |
| rain | 1415 | from Fennell's Petrel | 1- | ⊙ | | rough seas, high wind, low visibility, rain - light but steady |
| rain | 1418 | " " | 1- | ⊙ | | body molt |
| rain | 1515 | " " | 1- | ⊙ | | wing & body molt |
| | 1545 to 1549 | Flock | | | | feeding in rain |
| | | from Fennell's Petrel | 1- | W H ₂₀ | | close to ship but probably part of flock since it joined the middle group |
| | | Tern | 6±2 | ⊙ | | probably Sooty |
| | | Shearwater/ Petrel | 25±5 | ⊙ | | large & small, mostly white below probably no more than 1/2 mile away but rain & rough seas make accurate count & counts impossible |



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. Gould

Date 15 July 1967
Pg. # 2

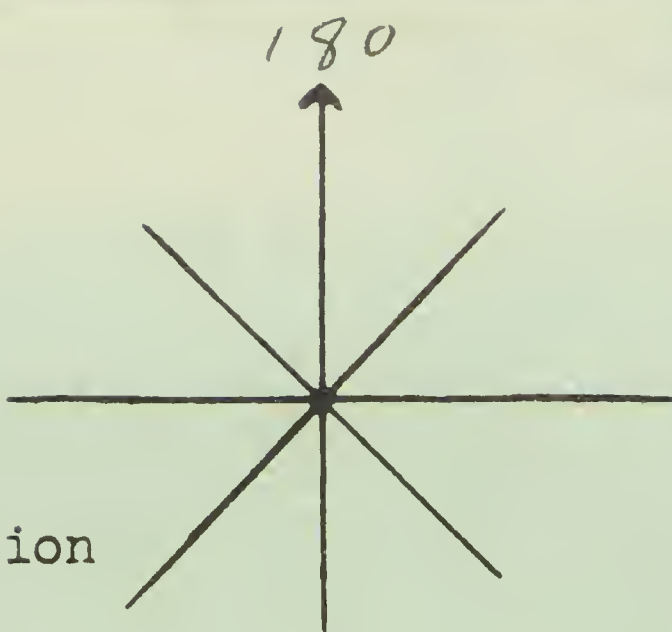
SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

| | | | | | |
|--------------|----------------------------|----|--------|--|---|
| 1559 | Lesser Frigatebird | 1- | SW | | } edge of rain squall or more precisely between rain squalls. |
| 1559 | " " | 1- | SW | | |
| 1600 | Collared/Black-wing Petrel | 1- | SW | | |
| 1600 | Leach's Petrel | 1- | S | | |
| 1601 to 1715 | no obs | | | | |
| 1737 | Lesser Frigatebird | 2- | on 420 | | 1745 slow speed net tow both molting |

Secured Observation
at sunset 1816



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

J. Gould

Date 16 July 1967
Pg. # 1

SPECIMEN
or

sunrise = 0556

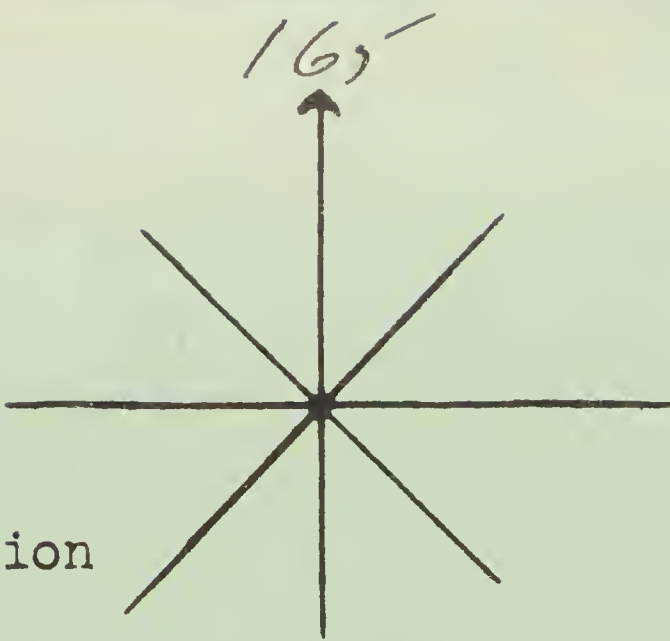
Pg. #

Begin observation = 0545

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|---|-----------------------------------|---|------|----------|--|
| | | | | | 0545 slow speed for net tow 0613 resume full speed |
| 0655 | Small Pterodroma | 1 | SW | | all white below, including underwings, but I couldn't see the dorsal surface very well. |
| 0730 70 | NO | | | | |
| 0755 | Obs. | | | | |
| 1030 50 | NO | | | | |
| 1300 | Obs. | | | | |
| | | | | | Course now 165° |
| 1600 70 | NO | | | | |
| 1710 | Obs. | | | | |
| 1715 | White- bellied Storm Petrel | 1 | ⊙ | | 1710 slow speed net tow 1725 resume full speed very well observed. no white throat, no dark line on white bellie - underwing looked as if it had more black than rest of regilla. very broad white wing patch, bird looked very fat with relatively broad wings - did not kick up waves but dabbled in water with bill while hovering. |
| <i>Secured watch at sunset 1811</i> | | | | | |



ventral
wing



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. J. Gould

Date *17 July 1967*
Pg. # *9*

SPECIMEN
or

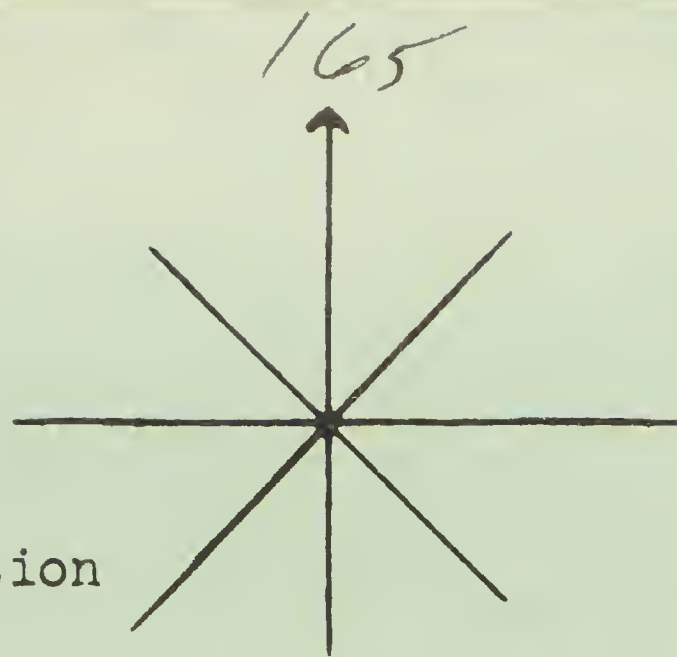
Sunrise = 0600

Begin observations = 0550

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|--------------------|----------------------------------|-----|------|----------|--|
| 0558 | Sooty Tern | 1 - | ? | | Immature (1st yr.) - still aerial way behind ship at sunrise (0600) |
| 0730 T 0753 | no obs. | | | | |
| 0914 | Sooty Petrel | 1 - | ☉ | Feeding | same bird again at 0918 flying at edge of rain squall |
| 1030 TO 1340 | no obs. | | | | |
| 1520 | Leach / or Harcourt Petrel | 1 - | ☉ | | 1340 slow speed for net tow 1400 resume full speed flew like Level 1 |
| 1544 | Harcourt's Petrel | 1 | ☉ | | Tail with very shallow fork when spread, flight without glides + more constant + rapid wing beats than 1520 bird, no indicator of dark in white wing patch |
| 1549 | Sooty Petrel | 1 - | ☉ | | |
| 1555 | Porpoise | 25+ | ☉ | | small size possible Spanish white seal or beaked. "South American Spinner 1" |
| 1600 TO 1700 | | | | | |
| 1730 | Leach / or Harcourt Petrel | 2 - | ☉ | | 1700 slow speed net tow 1723 resume full speed |

*Secure Observations at
Sunset 1806*

Ship
Direction



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

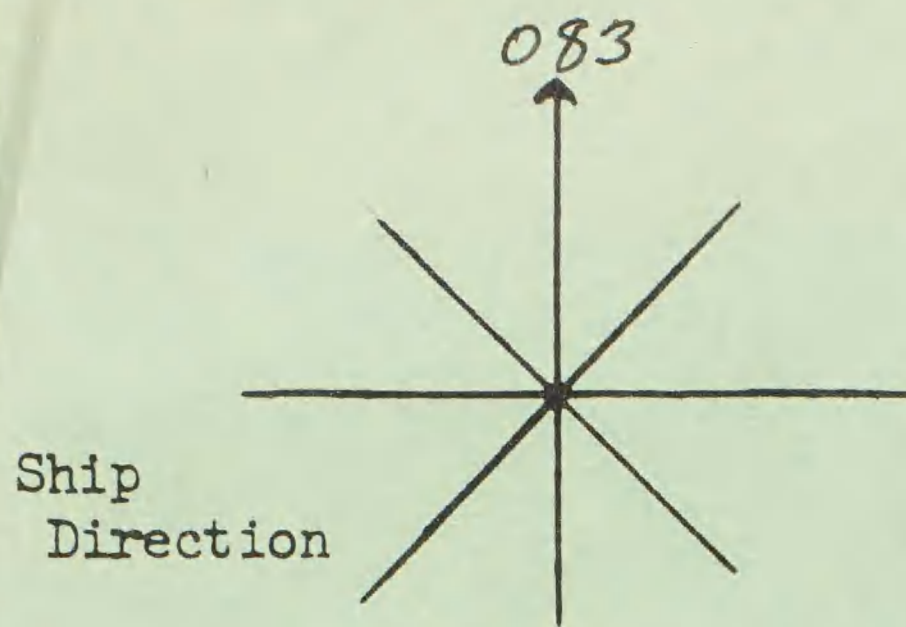
OBSERVERS:

P. J. Gould

SPECIMEN
or

Serial = 06025 Date 18 July 1967
Begin observation = 0600 Pg. # 1

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|--------------------|--|-----|---------|----------|---|
| 0700 | Small Pterodroma | 1 - | SW | | Flying Fish are extremely abundant today - many large (several hundred per school) schools. Far more abundant here than anywhere since the beginning of the trip. |
| 0730 To 0745 | no obs. | | | | |
| 0755 | Small Pterodroma | 2 - | WS | | |
| | white-throated or white-bellied Petrel | 1 - | WS | | |
| 0810 | white-throated Storm Petrel | 2 - | ⊙ | | both well seen, with throat, dark chest band - both kicking off of water using both feet at the same time. |
| 0820 | " | 1 - | ⊙ | | very close - very patch heavily |
| 0827 | " | 1 - | ⊙ | | suppered ^{with} brown - but probably molting |
| 0840 | " | 1 - | ⊙ | | |
| 0909 | Storm Petrel | 1 - | SW | | |
| 0915 | Pterodroma | 3 - | SW | | white belly |
| 1003 | white-throated Storm Petrel | 4 - | WS | | |
| 1011 | " | 2 - | WSW | | |
| 1019 | Storm Petrel | 1 - | ⊙ | | |
| 1020 | white-throated Storm Petrel | 1 - | WSW | | |
| 1021 | Leach Petrel at Hancock Is | 1 - | Feeding | | by setting on H ₂ O with wings up raised |
| 1029 | " " | 1 - | WSW | | and head dabbling in H ₂ O |



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. J. Gould

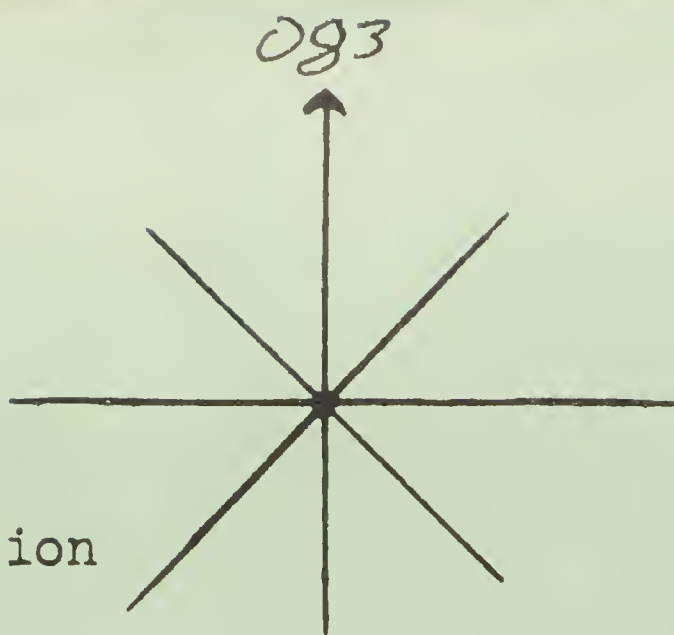
Date 18 July 1967
Pg. # 2

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

| | | | | | |
|--------------------|--------------------------------|---|----|-----|--------------------------------|
| 1030 To 1300 | 720 observations | | | | |
| 1309 | Leach/ Harcourt Petrel | 1 | ⊙ | | — flew over ship's |
| 1326 | Collared Petrel | 1 | → | NE | |
| 1327 | Leach Petrel | 1 | → | NE | |
| 1329 To 1332 | Collared Petrel | 6 | ⊙ | → E | |
| 1340 | Leach/ Harcourt Petrel | 2 | ⊙ | | |
| 1345 | white-throated Shear Petrel | 2 | ⊙ | | — well seen, kicking off water |
| 1349 | " " | 1 | ⊙ | | |
| 1353 | Collared Petrel | 1 | S | | |
| 1415 | " " | 1 | ⊙ | W | |
| 1425 | " " | 1 | E | | |
| 1435 | " " | 1 | NE | | |
| 1441 | small Pterodroma | 1 | NE | | |
| 1500 | white-wing Petrel | 1 | NE | | |

Secure observation 1530



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:



P. J. Gould

Date 19 July 1967
Pg. # 1

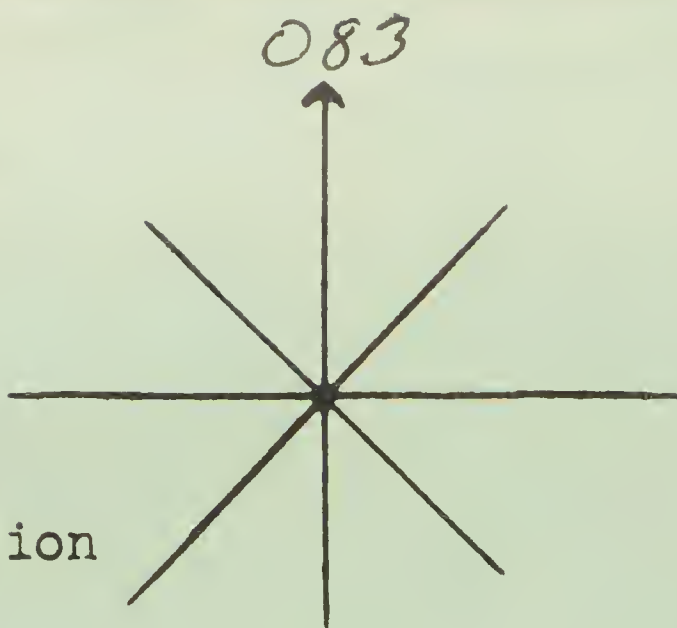
SPECIMEN
or

Sunrise = 0550

Begin Observations = 0545

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|---------------------------------------|--------------------------------------|---|------|----------|--|
| 0730 To 0800 | NO Obs. | | | | |
| 0822 | Pterodroma | 1 | WS | | |
| 0824 | Leach Petrel | 2 | ⊙ | | dark divide, line in wing well seen. |
| 0824 | White-wing Petrel | 1 | WSW | | |
| 0840 | " " | 1 | WSW | | dark underwing border definite, black head, gray back |
| 0846 | " " | 1 | NE | | like  |
| 0846 | " " | 1 | NE | |  |
| 0853 | Shear/Pet | 1 | NE | | |
| 0855 | " " | 1 | ⊙ | | |
| 0909 To 1000 | NO Obs. | | | | Ship stopped for engine repair |
| 1100 To 1200 1250 | NO Obs. | | | | |
| 1256 | Small Pterodroma | 1 | NE | | white below with dark border to underwing |
| 1303 | Leach/or Harcourt Shear Petrel | 1 | NE | | flying exactly like a small Pterodroma, a few flaps then an arcing glide (tilted). |
| 1308 | " " | 2 | ENE | | still around at 1317 |
| 1316 | " " | 1 | ENE | | |

OBSERVERS: (sumat 1745)

Ship
Direction
 SMITHSONIAN INSTITUTION
 DIVISION OF BIRDS
 AT SEA DAILY LOG - E

 Date 19 July 1967
 Pg. # 7

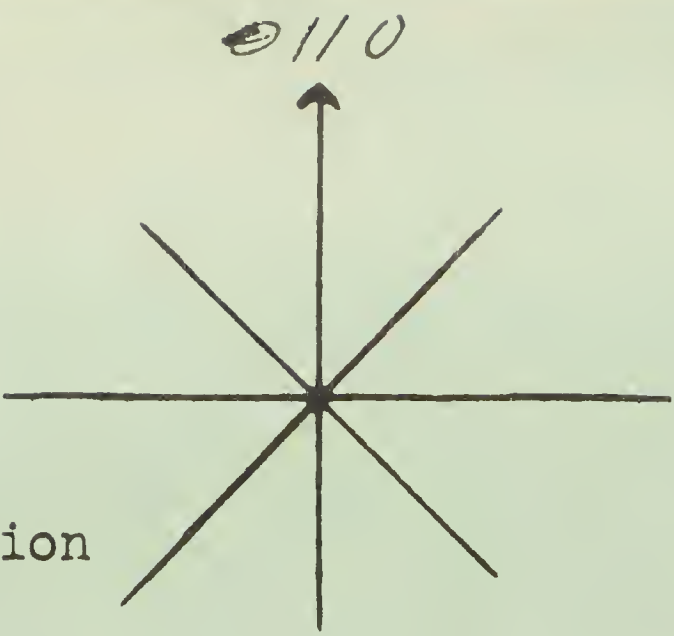
 SPECIMEN
 or

TIME SPECIES # DIR. BAND NO. REMARKS

| | | | | | |
|------|--|---|------|----------------|--|
| 1328 | Leach / or Harcourt Storm Petrel | 1 | ⊙ | | in light rain |
| 1346 | Leach Petrel | 2 | ⊙ | | well forked tail, dark center to tail, good view |
| 1351 | Leach / or Harcourt S.P. | 1 | ⊙ | | |
| 1400 | " " | 1 | ⊙ | | |
| 1411 | Small Pterodroma | 1 | SW | | white below with distinct black underwing border |
| 1411 | " " | 1 | SW | | " " " " " " |
| 1422 | White Throated Storm Petrel | 1 | ⊙ | | Kicking off water with both feet. |
| 1436 | Leach / or Harcourt Petrel | 1 | → W | | |
| 1446 | Dark-rumped Petrel | 1 | → SW | | Very good view - dark underwing border clear cut |
| | Small Pterodroma | 3 | → SW | | + separate from white, but dark, at least 2 x size of smaller Pterodroma it was flying with. |
| 1528 | Leach Petrel | 2 | ⊙ | | black underwing border, but could not tell about head - I was too busy watching the D-R Petrel to get a good look. |
| 1543 | Small Pterodroma | 1 | N | white below | dark dusky line + white ring, good fork in tail |
| 1545 | " " | 1 | S | | bird split up one heavily in front the other behind ship. |
| 1553 | Leach Petrel | 1 | ⊙ | | white below with dark underwing borders. |

Secure Observations at 1603

sumat = 1745



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

R. J. Gould

Date 20 July 1967
Pg. # 1

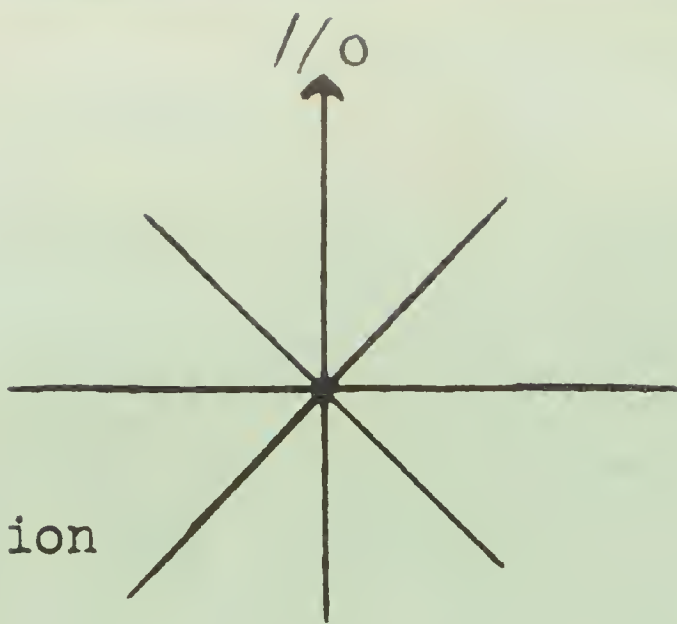
SPECIMEN
or

sunrise - 0538

begin observation 0615

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|--------------------|--|----|------|----------|---|
| 0625 | Leach/ Harcourt Petrel | 3- | ☉ | | split up, one sat on H ₂ O in , one fell behind other kept up with ship for another minute. |
| 0630 | Leach petrel | 1- | ☉ | | same bird? at 0637 |
| 0632 | Leach/Harcourt Petrel | 1- | ☉ | | |
| 0632 | " " | 1- | →E | | |
| 0651 | storm petrel | 1- | ☉ | | flew like Leach's / a Harcourt |
| 0730 To 0750 | NO Obs. | | | | |
| 0818 | Storm Petrel | 1- | ☉ | | |
| 0837 | White-throated Storm Petrel | 1- | →SW | | good view - kicking off water with both feet at short intervals - actually looked up if it was hopping across the water. |
| 0900 | Sooty Petrel | 2- | →NE | | |
| 0912 | White-throated Storm Petrel | 2- | ☉ | | good view - Kicking off water with both feet at short intervals |
| 0920 | " " | 1- | ☉ | | " " " " " " |
| 0928 | " " | 1- | ☉ | | |
| 0930 | Booby "blue-face?" or albatross? | 1- | →E | | ca. 1 1/2 miles from ship - flapping interspersed with glide but no arcing. all white except black somewhere on dorsal surface of wings or back or both. too far away to be an albatross |
| 0932 | Shear/Pet | 1- | ☉ | | white rump & looked fairly large, but given a distance from ship. Arcing up like a Pterodroma at times but looked more like shape of a storm petrel. |

Ship
Direction



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. J. Gould

Date 20 July 1967
Pg. # 2

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

0945 white-throated
Storm Petrel

1-

⊙

0946 Sooty
Petrel

1-

SW

forked tail, dark wings, looked just like Leach's
good view

0955
to

1010 obs.

1013 Storm Petrel

2-

⊙

one flew like a Leach's

1019 " "

1-

W

flew like a Leach's

1024 white-throated
Storm Petrel

1-

⊙

1058 Dark-rumped
Petrel

1-

WSW

change course to 090° at 1036

very close - white forehead obvious, dark underwing
border difficult especially between body & base of
wing - back appeared uniformly rich brown or
black-brown - could not detect any trace of "M"
Pattern, flew like a Juan Fernandez Petrel.

1100
to
1650

Oceanographic station
2 Leach's reported at ca 1615

1726 Sooty
Petrel
white-throated
Storm Petrel

2-

⊙

fast

1-

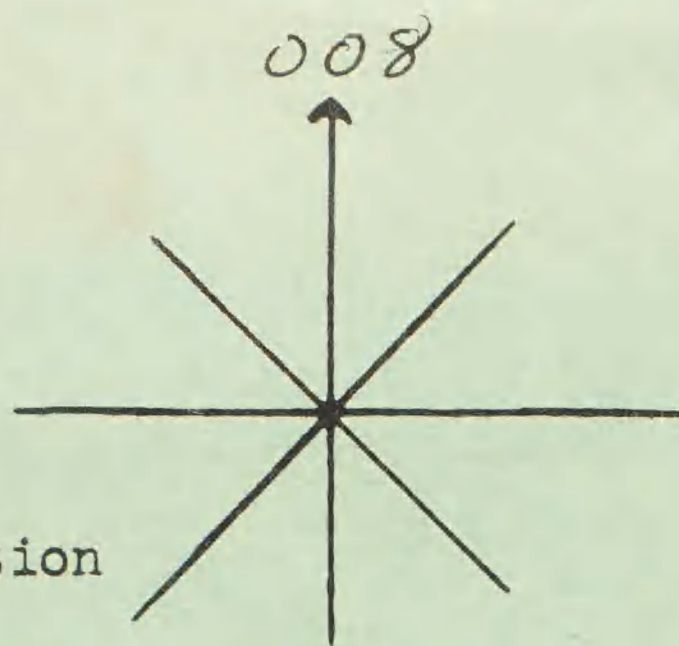
⊙

1650 - slow speed (ca 5 knots) net tow
1710 - full speed - course 020°

Seem obscure at
at sunset 1737

very little gliding, would swoop up high
then descend and sit, with outstretched
wings, on water for ca. 10-20 seconds, then
flutter around, rise up in air descend,
sit on H₂O (at which time the head would
be thrust about in the water)

SI-MNH-958-e
Rev. 5-66



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. J. Gould

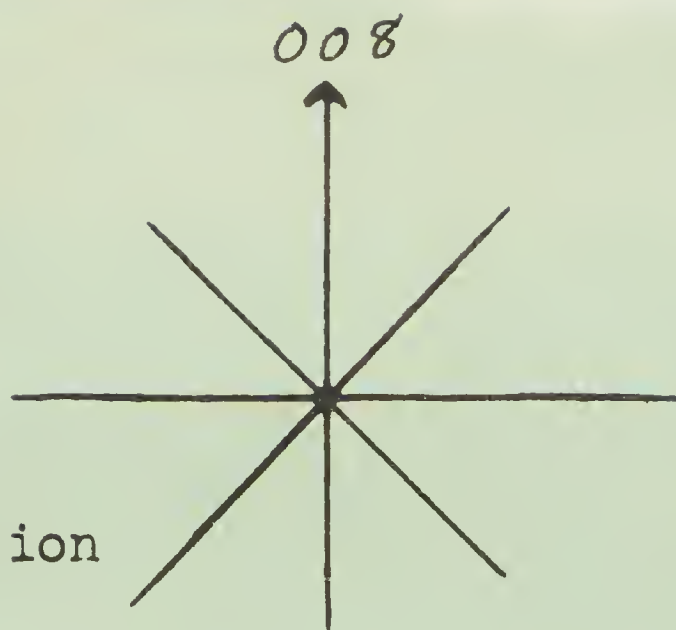
Date 21 July 1967
Pg. # 1

SPECIMEN
or

Sunrise = 0533

begin Observation = 0545

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|------|----------------------------------|-----|------|----------|-------------------------------------|
| 0556 | Leach / or Harcourt Petrel | 2 - | ⊙ | | |
| 0625 | " " | 1 - | ⊙ | | |
| 0629 | white-throated storm Petrel | 1 - | ⊙ | | incomplete chest band |
| 0635 | Leach / Harcourt S. 12 | 1 - | ⊙ | | |
| | Sooty Petrel | 1 - | ⊙ | | small white patch on sides of wings |
| 0654 | Harcourt's? storm Petrel | 1 - | ⊙ | | |
| 0700 | storm Petrel | 1 - | NE | | |
| 0723 | Sooty Petrel | 1 - | ⊙ | | |
| 0730 | no | | | | |
| TO | obs. | | | | |
| 0750 | | | | | |
| 0820 | Leach / or Harcourt Petrel | 1 - | ⊙ | | |
| 0826 | " " | 2 - | → N | | |
| 0834 | " " | 1 - | ⊙ | | |
| 0840 | " " | 1 - | → E | | |
| 0846 | " " | 2 - | → SW | | |
| 0848 | " " | 1 - | → SW | | |
| 0852 | " " | 1 - | → SW | | |
| 0918 | " " | 1 - | ⊙ | | |
| 0920 | " " | 3 - | → S | | |



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

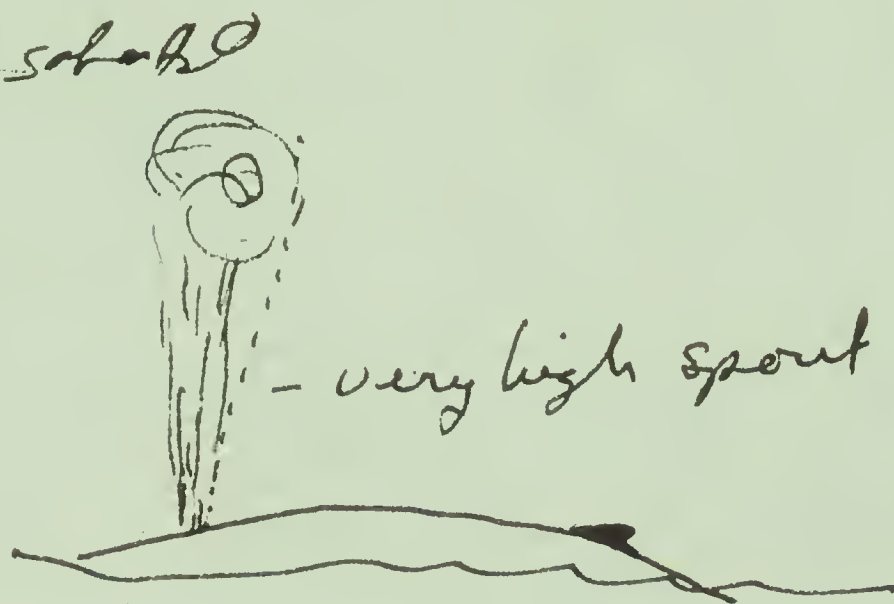
OBSERVERS:

S. J. Gould

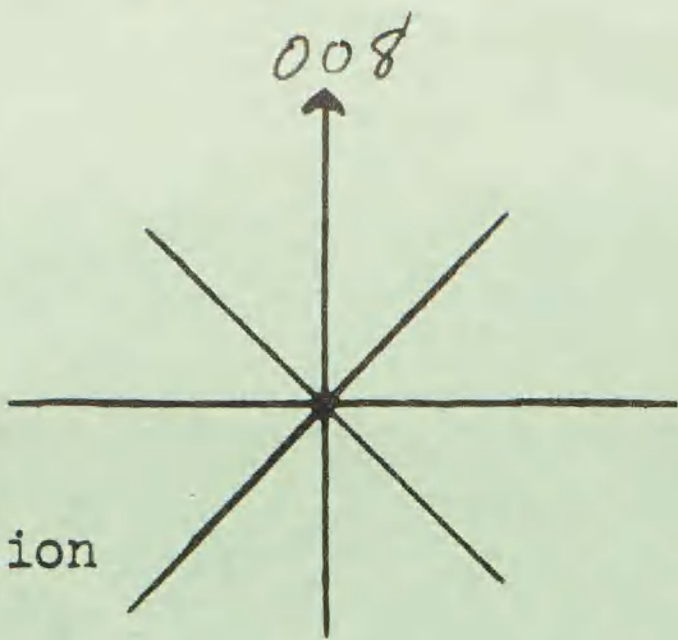
Date 21 July 1967
Pg. # 2

SPECIMEN
OR

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|------|-----------------------|----|------|----------|---|
| 0928 | Storm Petrel | 2 | ☉ | | split up after few second - Leach/Harcourt/Socorro type |
| 0937 | Socorro Petrel | 1 | SW | | forked tail, bird was seen. |
| 0942 | Leach/Harcourt Petrel | 1 | ☉ | | |
| 0946 | " " | 1 | SE → | | |
| 0951 | " " | 1 | SW → | | |
| 0957 | " " | 1 | E → | | |
| 0958 | " " | 1 | ☉ | | |
| 0959 | " " | 1 | ☉ | | Leach - soaring up in air, quick turn & down to lobb |
| 1005 | Socorro Petrel | 2 | ☉ | | in H ₂ O, |
| 1027 | Leach/Harcourt Petrel | 1 | ☉ | | |
| 1029 | Harcourt? Petrel | 1 | → SE | | brood white rump, no clear dividing line, flight somewhat lighter with shorter glide than Leach's |
| 1030 | Leach/Harcourt Petrel | 2 | ☉ | | good view as it flew directly under bow, tail with little or no fork to it. |
| 1031 | no | | | | |
| 1040 | no | | | | |
| 1446 | Leach/Harcourt Petrel | 1 | ☉ | | soaked |
| 1453 | " " | 1 | ☉ | | |
| 1505 | " " | 1 | → W | | |
| 1510 | Fiv back | | | | |
| 1520 | whales | 3+ | → SW | | |
| 1515 | Storm Petrel | 1 | ☉ | | |
| 1516 | Leach Petrel | 1 | ☉ | | |
| 1522 | Leach/Harcourt Petrel | 1 | | | |



large very long
been up to 75 or more
feet long



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

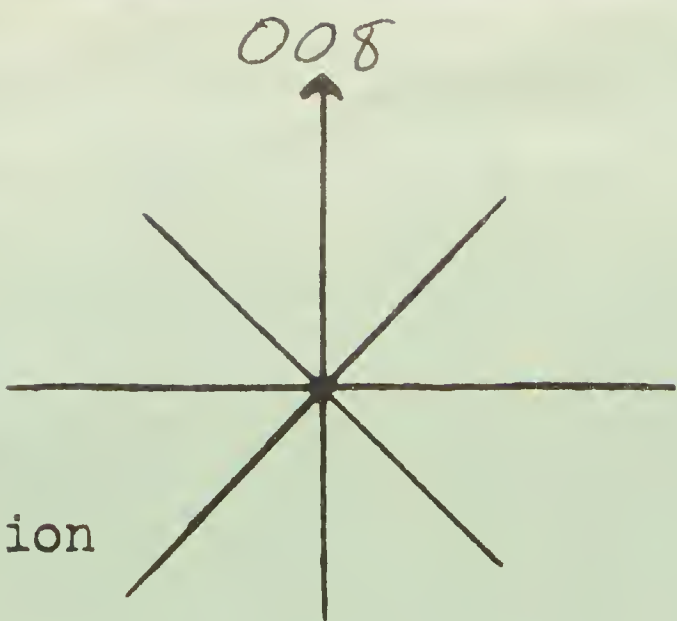
J. Gould

Date 21 July 1967
Pg. # 3

SPECIMEN
or

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|--------------------|---------------------------------|---|-----------------------|--------------|--|
| 1530 | Storm Petrel | 1 | ☉ | | |
| 1537 | " " | 2 | ☉ | | split up & went different directions |
| 1540 | Leach's / or Humboldt Petrel | 1 | ☉ | | |
| 1551 | " " | 1 | on 4 ₂₀ | | separated when flushed |
| 1557 | " " | 1 | ☉ | | |
| 1600 | " " | 1 | ☉ | | |
| 1601 To 1700 | no obs. | | | | |
| 1736 | Storm Petrel | 1 | | 1710 1716 | slow speed not too resumes full speed flw like Leach's |

Same watch
at sunset 1840



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

J. Gould

Date 22 July 1967
Pg. # 1

SPECIMEN
or

Series = 0531

Begin Observations = 0545

TIME SPECIES # DIR. BAND NO. REMARKS

OCEANODROMA CASTRO flew aboard
this morning at 0630 - others were also reported
flying around ship lights

0611 Leach /
Harcourt
Petrel 1 - → E

0645 Sooty Tern 1 - (C) adult

0657 Shear / Pet 1 - medium to large size - white below

0658 Leach /
Harcourt
Petrel 1 - (C)

0711 Storm Petrel 1 - (C) Leach's / Harcourt / Sooty Tern

0717 Leach /
Harcourt
Petrel 1 - → NE

0723 Storm Petrel 1 - NE Leach / Harcourt / Sooty Tern - moving fast

0723 " " 1 - NE " " " " " "

0728 Leach /
Harcourt
Petrel 1 - SW

0730 NO

To
0750 Obs.

0755 Storm Petrel 2 - NE Leach / Harcourt / Sooty Tern - split up

0809 Harcourt /
Petrel 1 - E very shallow fork to tail, broad, white + clean cut
rump patch without dark divider, good view,
good light, flew like a Leach but with less
gleaming, and lighter appearing wing beat, wing
beats more evenly spaced, not as erratic, as Leach's.

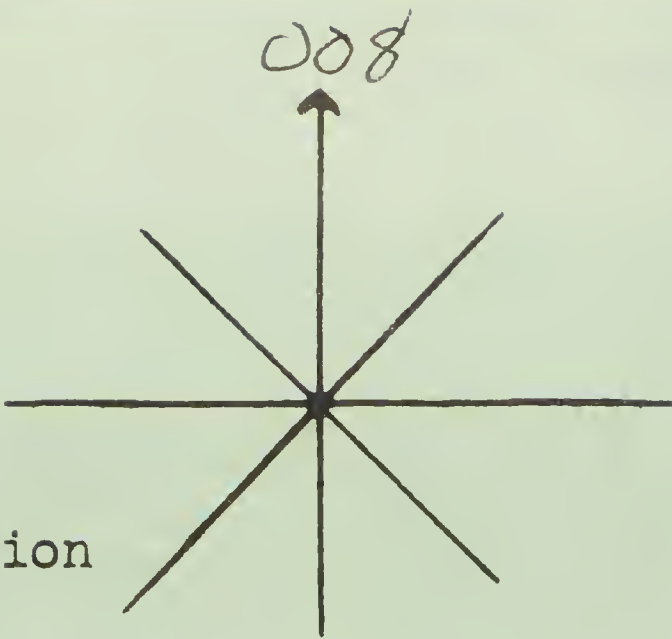
0813 Storm Petrel 1 - (C) Leach /
Harcourt /
Sooty Tern

0821 white-throated
or white-bellied
Storm Petrel 1 - (C)

0826 Harcourt /
Leach
Petrel 3 - follow ship (C) kicking off water in typical white-throated
fashion, but I could not see throat area.

0836 Storm Petrel 1 - (C) Leach /
Harcourt /
Sooty Tern follow for less than 5 minutes

0840 " " 1 - (C) " "



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

[Signature]

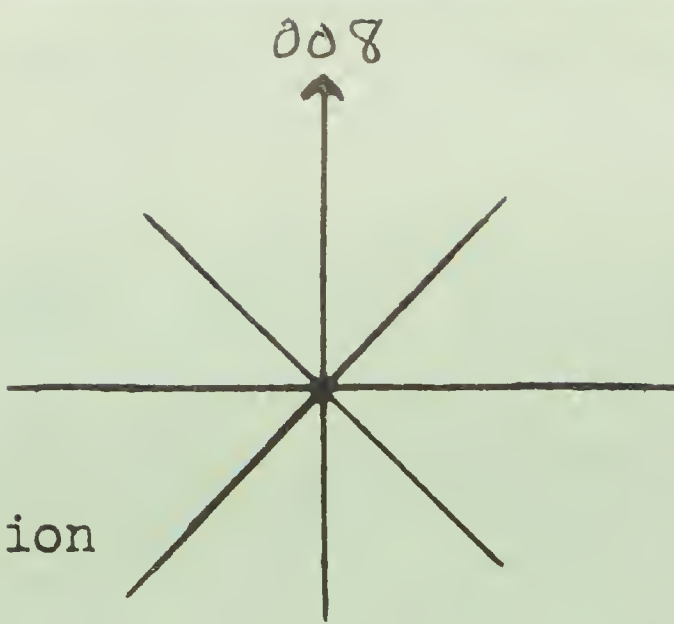
Date 22 July 1967
Pg. # 2

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

| | | | | | |
|------|----------------------|----|------|--|---|
| 0843 | | | | | there are now 4 Leach/Harbour Petrel following ship. |
| 0851 | | | | | |
| 0857 | Storm Petrel | 1- | | | one Leach/Harbour in wake of ship |
| 0858 | Murphy Petrel | 1- | | | all dark but with grey underwing areas |
| 0900 | Bird | 1- | | | flew like a frigatebird only. Relatively good view, but not the best. |
| 0904 | Leach/Harbour Petrel | 2- | NE | | flying fast. |
| 0907 | " " | 1- | NE | | |
| 0907 | Storm Petrel | 1- | NE | | |
| 0910 | Leach/Harbour Petrel | 1- | SW | | Leach/Harbour/Scoons |
| 0915 | " " | 1- | E ~> | | |
| 0924 | " " | 1- | E ~> | | |
| 0927 | " " | 1- | E ~> | | |
| 0929 | " " | 1- | W ~> | | |
| 0930 | " " | 2- | SW | | |
| 0933 | " " | 1- | SW | | Probably Harbours |
| 0936 | Harbour Petrel | 1- | SW | | |
| 0940 | Scoons Petrel | 1 | SW | | Very shadowy form, broad + uninteresting wing patch |
| 0943 | Storm Petrel | 1- | SE | | slight lighter + more constant type. |
| 0943 | " " | 1- | SE | | Leach/Harbour/Scoons |
| 0946 | Harbour/Leach's | 1- | SE | | " " " |
| 0948 | Storm Petrel | 1- | SE | | Probably Harbours |
| 0950 | Leach/Harbour | 2- | SE | | Leach/Harbour/Scoons |
| 0952 | Storm Petrel | 1- | SE | | Seeds, swooping high in air then down over water |
| 1006 | Leach/Harbour Petrel | 2- | W | | Leach/Harbour/Scoons |

Ship
Direction



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. J. Gould

Date 22 July 1967
Pg. # 3

SPECIMEN
OR

TIME SPECIES # DIR. BAND NO. REMARKS

1009 Storm Petrel 1- E ——— Leach / Hancock / Socorro

1013 " " 1- E ——— " " "

1015 Hancock / Leach Petrel 2- (C) ——— Probably Hancock's

1017 " 1- W

1017 " 1- W

1022 Storm Petrel 1- E ——— Leach / Hancock / Socorro

1025 NO

TO

1300 OBSERV.

Salinity = 34.30
H₂O temp. = 28.8°C } surface

1322 Leach / Hancock Petrel 1-

1300 slow speed out tow in progress
1338 resume full speed course now 010°

1352 " " 1- NE

1413 " " 1- W

1430 " " 1- (C)

probably Hancock's

probably Leach's

1515 Hancock's Petrel 5- ON H₂O

scattered when flushed - very close in view

1520 Leach / Hancock Petrel 1-

1526 " " 1- (C) NE

Probably Leach's

tail only slightly forked & look round (C) when spread, white patch clear cut & looks large no trace of dividing line

with some ruffled (open lighter) wing beats less gliding and no side slipper than Leach's.

dark under wing border, white bellie, vent covered! judge size, all back color

1532 Pterodroma 1- E

1542 Leach / Hancock Petrel 1- (C)

Probably Leach's

1550 white-throated Storm Petrel 1- (C)

Kidney 420

1600 Swallow Tailed Gull 1- (C) Adult

Flew slowly over ship but did not stop. Red eye seen, dark grey head - reminded me of a very large Sabine's gull. Saw forked white tail and distinctive wing pattern - absolutely no doubt on identification
Sunset 1744 (over)

Secineobae at 1600

SI-MNH-958-e

Rev. 5-66

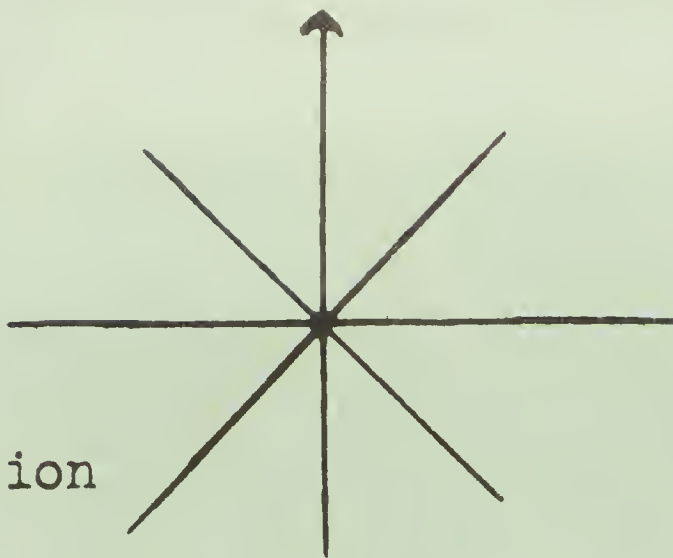
1600 about a thousand yards from the ship the Fork Tailed Gull

swooped slightly up and hovered with bill down just like a
large turn preparing to dive. The gull then dropped
to ca 10' above the water but did not pursue the fish
it had apparently sighted. The bird then flew leisurely
(very light, steady, slow wing beats) away

Pf Gull

005

OBSERVERS:

Ship
Direction
 SMITHSONIAN INSTITUTION
 DIVISION OF BIRDS
 AT SEA DAILY LOG - E
SPECIMEN
or

Sunrise = 0530

Date 23 July 1967
Pg. # 1TIME SPECIES # DIR. BAND NO. REMARKS *begin observations 0550*

2 Frigatebirds (both with some white below)
were reported at 0500.

[Last night ca 2200, the ship stopped
at a fishing buoy and many (ca ⁶ ±)
boobys were ~~reported~~ on and around it]
reported. [consider blue-face Booby]

0605 Blue-face
Booby

1-

⊙

Imm (1st yr.)

[a sea lion was reported following
the ship for awhile at 2400]
an Imm. ♂ Zalophus californianus

0618 Sooty
Petrel

1-

→ W

0619 Shear/Pet

1-

N

0630 Great
Frigatebird

1-

⊙

Immature - dorsal wing bars observed

0730 NO

TO

0750 065.

0705 the blue-face Booby from 0605
and the Great Frigatebird Imm. from 0630
are now circling behind the ship. The
booby sat down in the water next
to a floating, round, green, Turtle.
Booby departed ca. 0720, Frigatebird departed ca. 0715.

0804 Storm Petrel

1-

E

Leach/n
Harmon/n
Sooty0806 Frigatebirds
to

18-

⊙

0819 Porpoise

50 ±

Frigate = 2 at 0806 - A possible skipfoot was
3 at 0808 seen at 0822
5 at 0810
7 at 0813
15 at 0814 - birds began circling higher
16 at 0816 - birds began to disperse
18 at 0817 - birds high & scattered

at 0820 we were about even with the porpoise
school.

our maximum speed is 11 1/2 knots at this time so
the frigates were at least 2.7 miles distant
when first observed.

SI-MNH-958-e
Rev. 5-66

14 min

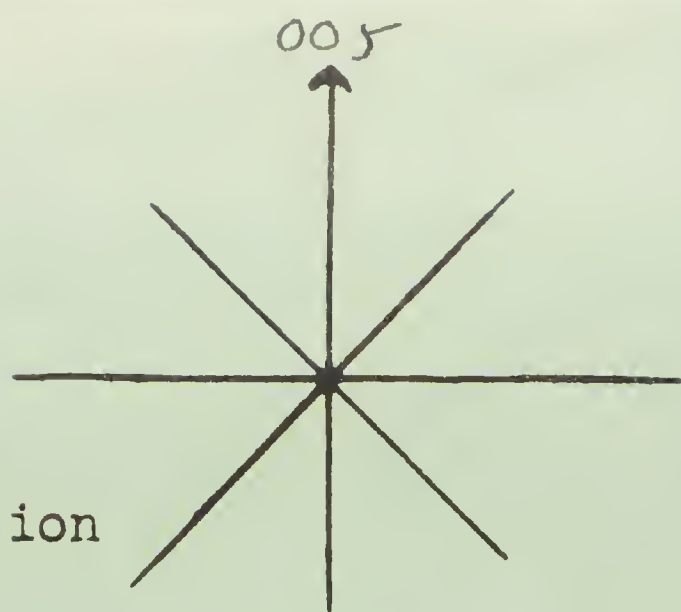
~~14~~

$$\frac{11.5}{60} = \frac{x}{14}$$

$$\begin{array}{r} 2 \\ 11.5 \\ \hline 14 \\ 460 \\ 115 \\ \hline 161.8 \end{array}$$

$$\begin{array}{r} 2.6 \\ 60 \overline{) 161.00} \\ \underline{120} \\ 410 \\ \underline{360} \\ 500 \end{array}$$

Ship
Direction



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

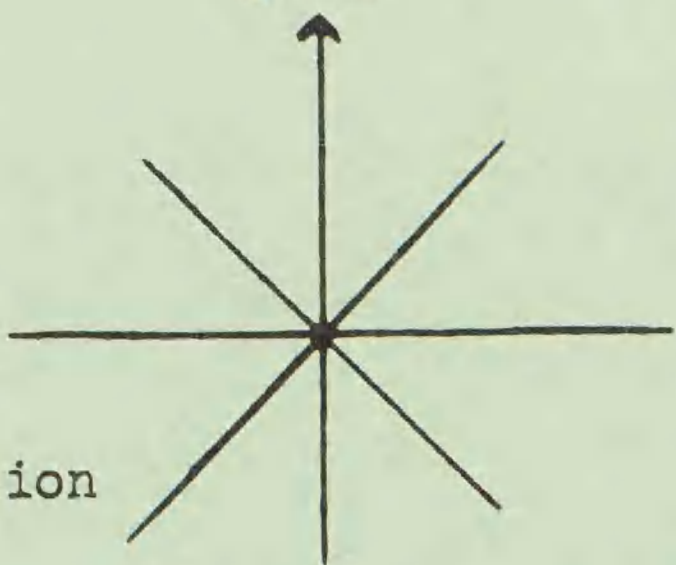
P. J. Gould

Date 23 July 1967
Pg. # 2

SPECIMEN
or

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|------|------------------------------|-----------------|------------------------|----------|--|
| 0827 | Leach/ Harbour Petrel | 1 | ⊙ | | Large number of flying fish are around today. They have been rather scarce for the last few days. |
| 0831 | Shear/Pet | SP 1 | S12 | | |
| 0840 | Leach Petrel | 2 | ⊙ | | forked tail & divided wing patch seen |
| | Sooty Petrel | 2 | ⊙ | | definite grey wing lining but otherwise a I dark wings. otherwise flew & looked exactly like the Leach's. |
| 0845 | Leach/Harbour Petrel | 1 | — | | |
| | Sooty Petrel | 2 | on H ₂ O | | |
| | Storm Petrel | 1 | — | | Leach/Harbour/Sooty |
| 0849 | Storm Petrel | 1 | E | | " " " |
| 0905 | " " | 1 | ⊙ | | |
| 0919 | Red-footed Brown Booby | 1 | ⊙ | | Immature (1st yr.) |
| 0958 | Great Frigatebird | 1 | ⊙ | | Immature - wing, bare seen |
| 1013 | Sooty Petrel | 6 | on H ₂ O | | Storm Petrel began feeding, often flushed for water swooping up then down & rest on water, wings elevated & head bobbing, beneath surface. |
| | Leach Petrel | 1 | | | |
| | Storm Petrel | 1 | | | |
| | Pterodroma | 1 | | | |
| 1030 | Hermes Petrel | 1 | on H ₂ O | | all dark, small to medium size. Dark Phone |
| 1050 | | | | | Sun. Temp. = 26.5 |
| 1310 | | | | | Sun. Sal. = 34.58 |
| | | | | | 1310 - slow speed net tow in progress |
| 1342 | Sooty Petrel | 1 | → W | | 1335 - resume full speed |
| 1401 | " " | 1 | → E | | |

005

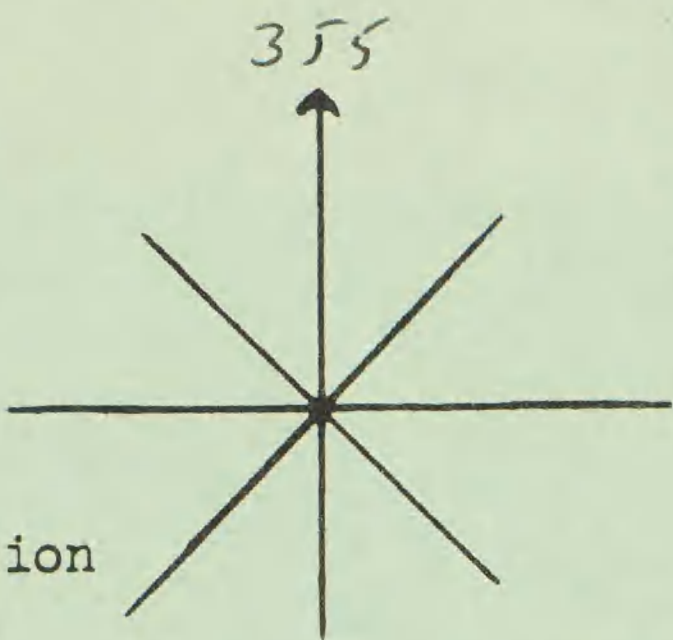
Ship
Direction
 SMITHSONIAN INSTITUTION
 DIVISION OF BIRDS
 AT SEA DAILY LOG - E

OBSERVERS:

 Date 23 July 1967
 Pg. # 3
SPECIMEN
or

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|------|----------------------|---|------|-------------|--|
| 1450 | Shear Frigatebird | 1 | ☉ | | Immature with all rusty head. dorsal wing bars seen. Appeared suddenly looked the ship over we then proceeded to gain altitude by flying in an upward spiral until he was out of sight |
| 1502 | Sooty Petrel | 1 | ☉ | | |
| 1512 | " " | 2 | ☉ | spec up. | |
| 1600 | NO | | | | |
| 70 | | | | | |
| 1710 | 065. | | | | |

 Secure Observations
 at 5 ans at 17 ~~00~~
 49



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

V. J. Gould

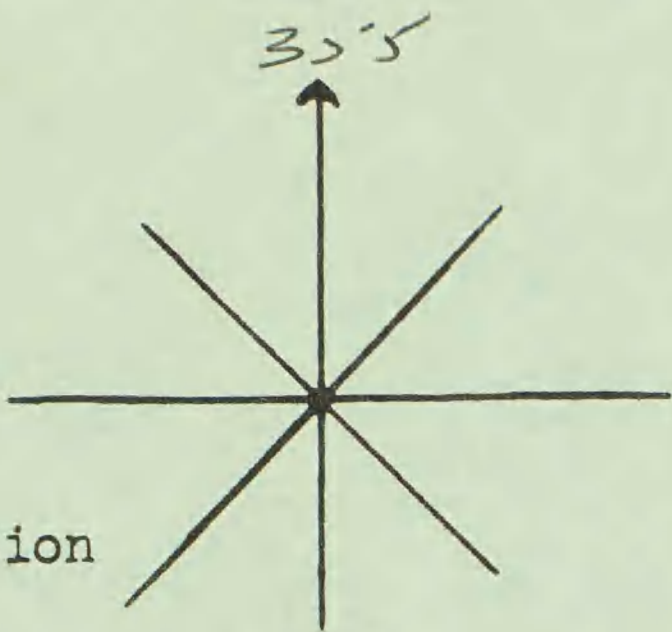
Date 24 July 1967
Pg. # 1

SPECIMEN
or

Sumner = 0522
begin obs. 0545

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|--------------|---------------------------|----|---------------------|----------|--|
| 0610 | wedge-tail shearwater | 1- | on H ₂ O | | dark then |
| 0616 | juv. tern-like Petrel | 1- | ⊙ | | molting at least on upper tail coverts |
| 0620 | " | 1- | ⊙ | | |
| 0621 | " | 1- | ⊙ | | |
| 0624 | black-wing Petrel | 2- | SW | | |
| 0629 | juv. tern-like Petrel | 2- | ⊙-NE | | |
| 0629 | Sooty? Shear. | 1- | ⊙-S | | |
| 0639 | juv. tern-like Petrel | 1- | ↘ SE | | |
| 0652 | pterodroma | 1- | W | | white bellie but may have had all dark underwings |
| 0715 | sooty? shearwater | 1- | SW | | |
| 0719 | juv. tern-like ? Petrel | 1- | SW | | |
| 0719 | Pterodroma | 1- | W | | |
| 0721 | shearwater | 1 | W | | all dark |
| 0727 | juv. tern-like Petrel | 1- | ⊙ | | |
| 0727 | christian-bald shearwater | 1- | ⊙ | | a cell seen & near enough to juv. tern-like Petrel to compare size |
| 0730 to 0750 | no obs. | 1 | | | |
| 0812 | juv. tern-like Petrel | 1- | S | | |
| 0816 | Tern | 1- | SE | | all dark juv. Sooty? |
| 0819 | Leach's or Horned Petrel | 2- | ⊙ | | |

Ship
Direction



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

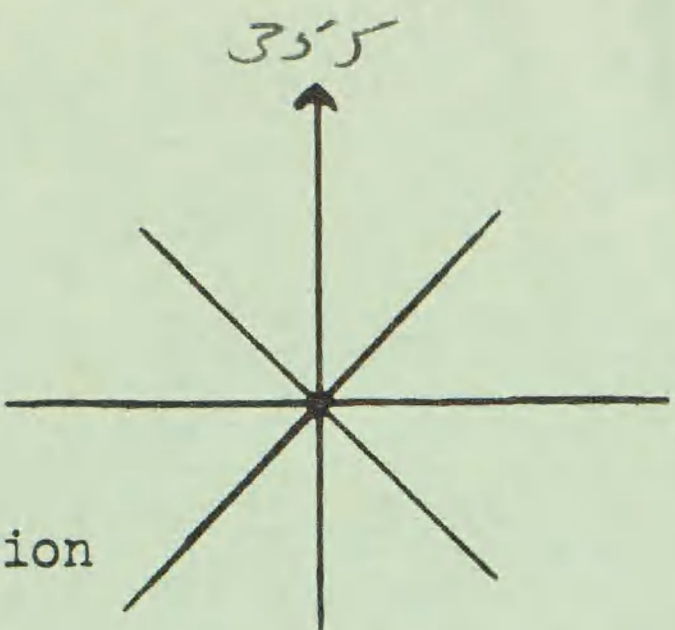
P. G. G. G.

Date 27 July 1967
Pg. # 2

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

| | | | | | |
|------|---------------------------|----|-----|--|--------------------------------|
| 0822 | Sooty Petrel | 1- | →NW | | |
| 0824 | Shear/Pet | 1- | ⊙ | | Probably Juan Fernandez Petrel |
| 0826 | Black-wing Petrel | 1- | →SW | | |
| 0826 | Sooty Petrel | 1- | ⊙ | | |
| 0830 | Wedge-tail Shearwater | 1- | SE | | dark phase |
| 0833 | Juan Fernandez Petrel | 1- | 3 | | |
| 0834 | Frigatebird | 3+ | ⊙ | | far in distance |
| 0841 | Sooty Petrel | 1- | →W | | |
| 0843 | wedge-tail ? Shearwater | 1- | →SW | | dark phase |
| 0856 | wedge-tail Shearwater | 1- | ⊙ | | dark phase |
| 0856 | Phoenix/n Tokitoki Petrel | 1- | ⊙ | | |
| 0900 | Black-wing Petrel | 1- | →SE | | |
| 0902 | Juan Fernandez Petrel | 1- | →S | | |
| 0906 | Frigatebird | 1- | ⊙ | | high |
| 0909 | Shear/Pet | 1- | →W | | |
| 0910 | Juan Fernandez Petrel | 1- | →S | | |
| 0910 | wedge-tail Shearwater | 1- | →S | | light phase |
| 0911 | Juan Fernandez Petrel | 1- | →SW | | |



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

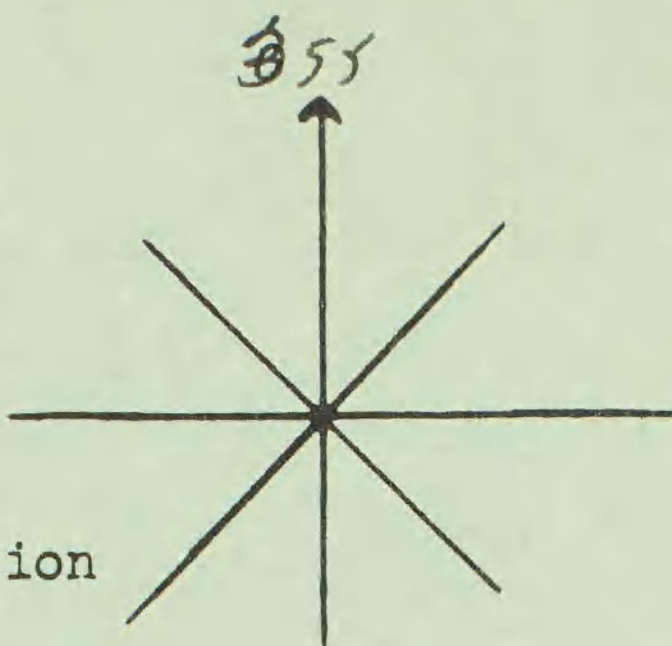
OBSERVERS:

J. G. Gould

Date 27 July 1967
Pg. # 3

SPECIMEN
or

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|-----------|-----------------------------------|---|-------------|----------|------------------------------------|
| 0915 | from Family Pterid | 1 | → S | | |
| 0918 | Shearwater | 1 | → W | | wedge-tail (light) or Pink-footed |
| 0920 | from Family Pterid | 1 | ⊙ | | |
| 0921 | Harcourt / or Leach Pterid | 1 | ⊙ | | looked & flew more like Harcourts. |
| 0923 | from Family Pterid | 1 | → SW | | edges / rain squall |
| 0923 | Sooty Pterid | 2 | ⊙ | | " " " |
| 0925 | from Family Pterid | 1 | → S | | " " " |
| 0927 | " " | 1 | → S | | " " " |
| rain 0935 | " " | 1 | ⊙ | | Collected - rain |
| " 0935 | Star Pterid | 1 | ⊙ | | |
| " 0937 | Leach / Pterid Harcourt Pterid | 2 | ⊙ | | |
| " 0940 | from Family Pterid | 1 | → | | |
| 19 0942 | Leach / Harcourt | 1 | ⊙ | | |
| " 0943 | from Family Pterid | 2 | ⊙ | | |
| " 0949 | Leach / Harcourt | 1 | ⊙ | | |
| " 0950 | from Family Pterid | 1 | ⊙ | | |
| " 0955 | " " | 5 | on 4, 10 | | 1 collected |



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

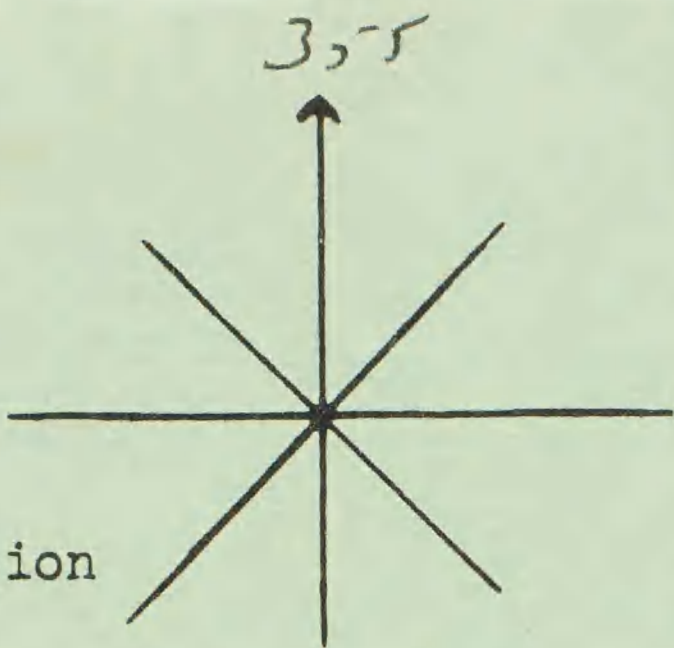
OBSERVERS:

P. J. Gould

Date 24 July 1967
Pg. # 4

SPECIMEN
or

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|--------------------|------------------------------------|---|------|----------|---|
| 0955 | Storm Petrel | 2 | ⊙ | | rain started ca. 1000 |
| 1006 | Jaeger Family Petrel | 1 | ⊙ | | |
| 1007 | " " | 1 | ⊙ | | |
| 1008 | Phalarope/a shearbird | 1 | | | |
| 1009 | wedge-tail | 1 | SE | | lost phone |
| 1010 | Storm Petrel | 1 | ⊙ | | |
| 1011 | Jaeger Family Petrel | 1 | NW | | |
| 1011 | Jaeger Family Petrel | 2 | ⊙ | | large size |
| 1015 | " " | 1 | ⊙ | 420 | large size |
| 1016 | wedge-tail Shearwater | 3 | ⊙ | | lost phone |
| 1025 | Jaeger Family Petrel | 1 | 420 | | |
| 1027 | Leach's/Harbour Petrel | 1 | ⊙ | | |
| 1029 | Jaeger Family Petrel | 1 | ⊙ | | difficult, larger than Leach's |
| 1030 To 1610 | no obs. | | | | |
| 1612 | Blue face Booby | 1 | ⊙ | | seen has been around water station ca seen ca 1200 |
| 1615 | Jaeger Family Petrel | 2 | NW | | |
| 1618 | Jaeger Family Petrel | 1 | ⊙ | | |
| 1623 | Shear/Pet | 1 | NW | | |
| 1624 | wedge-tail Shearwater | 1 | ⊙ | | dark |



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

[Signature]

Date 24 July 1967
Pg. # 5

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

(1752)

1630 Wedge tail Shearwater 2- 1 dark phase & 1 light phase

1630
70 NO
1655 obs

1700 ~~Booby~~ Red-footed 1- 1st yr. solid light brown somewhat lighter below with definite darker narrow chest band. bill lead grey - adult bluish
1703 shear/pet 6- SW
1704 green Tropicbird 1- spend out & moving slowly

1705 shear/pet 1- SW
1705 " " 1- SW
1708 " " 1- SW
1709 " " 1- SW
1710 " " 1- SW
1710 " " 1- SW
1710 " " 1- SW
1714 " " 1- SW
1715 " " 1- SW

1715 Pink footed Shearwater 1- on H₂O

1715 Pileated whale 4+

1716 Red footed Booby 1- diff. tail - imm

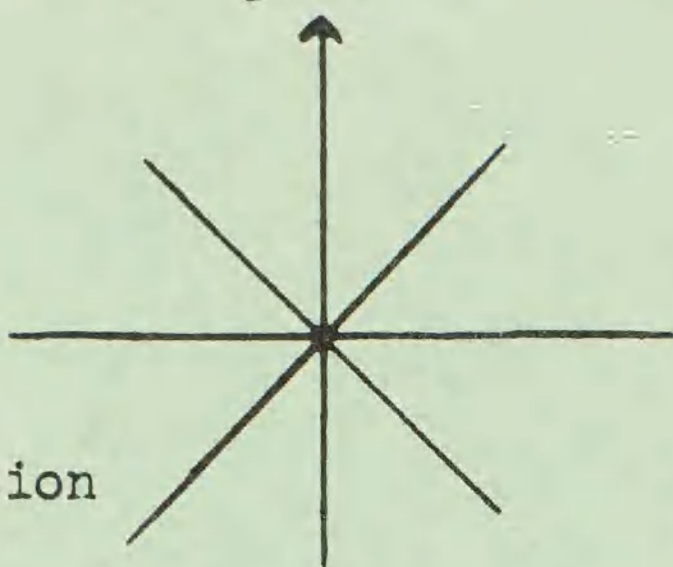
1720 Porpoise 30+

1723 shear/pet 1- SW
1723 " " 1- SW
1723 " " 1- SW
1724 " " 1- SW

1726 green Tropicbird 1-

1730 shear/pet 1- SW

355

Ship
Direction
 SMITHSONIAN INSTITUTION
 DIVISION OF BIRDS
 AT SEA DAILY LOG - E

OBSERVERS:

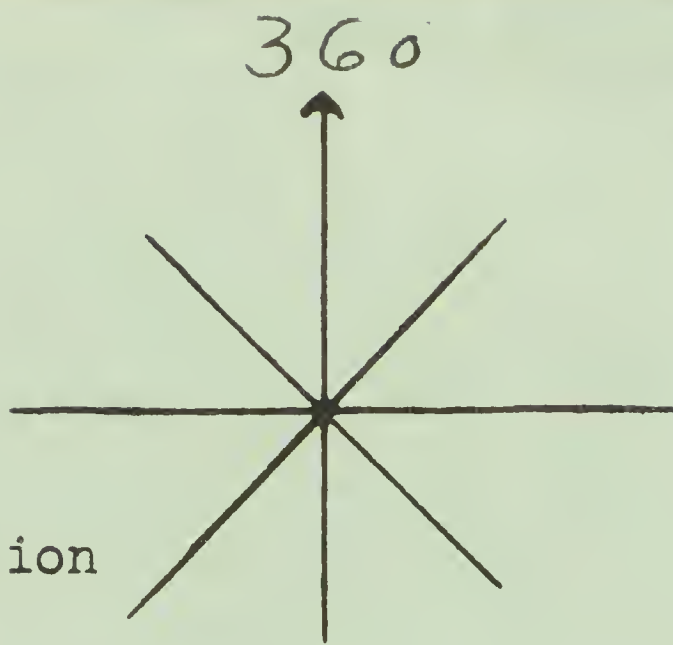
p/good

 Date *24 July 1967*
 Pg. # *6*
SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

| | | | | | |
|------|---------------------------|---|----|---|----------------------------------|
| 1739 | Storm Petrel | 1 | ⊙ | — | Leach/Harcourt/Socorro |
| 1739 | " " | 1 | ⊙ | — | " " " |
| 1742 | Iron Terns Petrel | 1 | ⊙ | | |
| 1745 | " " | 1 | →W | | |
| 1745 | Shear/pet | 1 | →W | | |
| 1751 | " " | 1 | ⊙ | — | Probably J. K. P. |
| 1751 | " " | 1 | ⊙ | — | " " " |
| 1752 | Harcourt? Storm Petrel | 1 | ⊙ | — | very little if any fork in tail. |

*Secure Observation of
Sawut 1752*



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

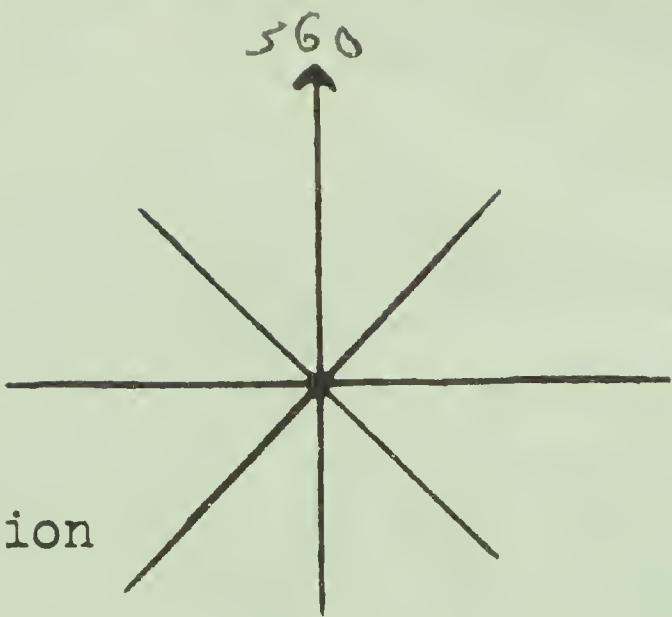
P. J. Gould

SPECIMEN
or

Sunrise = 05²04

Date *25 July 1967*
Pg. # *1*

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|--------------------|------------------------------|-----|------------------|----------|--|
| | | | | | <i>Begin Observation = 0510</i> |
| 0510 | <i>Juan Fernandez Petrel</i> | 1 - | ⊙ | | } 5 minute look before coffee |
| 0512 | " " | 1 - | ⊙ | | |
| 0514 | " " | 1 - | ⊙ | | |
| 0515 To 0545 | | | | | |
| 0545 | <i>Shear/Pet</i> | 1 - | W | | |
| 0546 | <i>Juan Fernandez Petrel</i> | 1 - | ⊙ | | |
| 0547 | <i>Small Pterodroma</i> | 1 - | SW | | |
| 0548 | <i>Red-footed Booby</i> | 2 - | ⊙ | | <i>1st yr. light brown all over somewhat lighter below.</i> |
| 0600 | <i>Blue-face Booby</i> | 5 - | Fall from ship | | <i>Immatures</i> |
| 0600 | <i>Juan Fernandez Petrel</i> | 1 - | ⊙ | | |
| 0605 | " " | 1 - | ⊙ | | |
| 0613 | " " | 2 - | ⊙ | | |
| 0613 | " " | 1 - | m | | |
| 0614 | " " | 1 - | H ₂ O | | |
| 0614 | " " | 1 - | ⊙ | | |
| 0614 | " " | 1 - | m | | <i>Took as 2 minutes to reach after I scattered him</i> |
| 0617 | " " | 7 - | H ₂ O | | <i>all ca 50 yds apart except 2 sitting, rest to each other</i> |
| 0625 | <i>Wedge-tail Shearwater</i> | 1 - | ⊙ | | <i>0620 [Blue face + Brown Boobys still with us]</i> |
| 0625 | <i>Juan Fernandez Petrel</i> | 1 - | ⊙ | | <i>one Booby (ad brown) flew close to a Juan Fernandez Petrel and pecked at him in mid air, Petrel flinched and fled away]</i> |
| 0630 | " " | 1 - | ⊙ | | <i>now at least 8 in sight but probably most of them are previous birds</i> |
| 0630 | " " | 1 - | ⊙ | | |
| | | | | | <i>now at least 10 around and scattered at various distances around ship</i> |



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

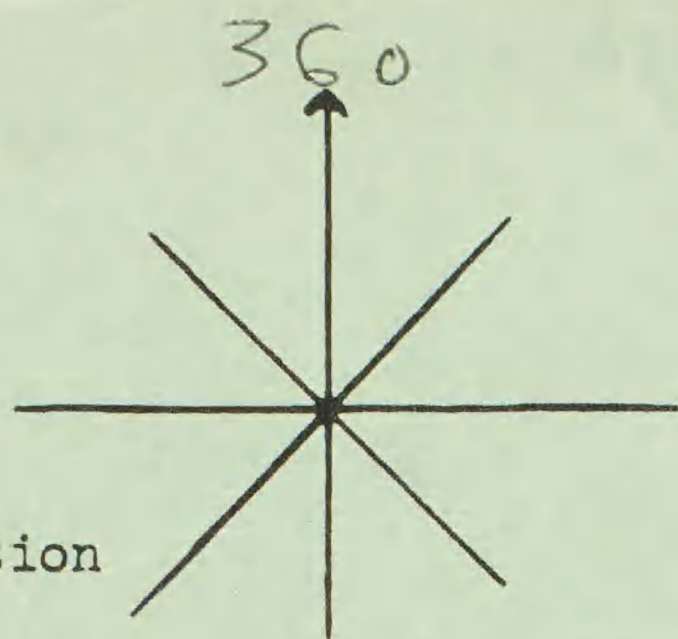
OBSERVERS:

R. J. Gould

Date *25 July 1967*
Pg. # *2*

SPECIMEN
or

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|------|-----------------------|--------|------|---|---|
| 0625 | Leach's Petrel | 75 ± 5 | - | | well scattered and no active feeding |
| 0640 | Wedge-tail Shearwater | 5 ± 1 | - | dark phase | |
| | Momp Shearwater | 2 | - | on H ₂ O | |
| 0645 | Leach's Petrel | 12 | - | on H ₂ O | also many scattered Leach's Leach's Petrel flying, but figures there have already been counted - |
| 0649 | Sooty Tern | 5 | - | | |
| 0649 | Leach's Petrel | 5 | - | on H ₂ O | |
| 0652 | " " | 5 | - | on H ₂ O | |
| 0653 | " " | 1 | - | " | |
| 0654 | " " | 9 | - | " | |
| 0655 | " " | 2 | - | " | |
| 0655 | " " | 4 | - | " | |
| 0655 | Wedge-tail Shearwater | 1 | - | ① - dark phase | |
| 0656 | Leach's Petrel | 4 | - | on H ₂ O | |
| 0656 | " " | 1 | - | H ₂ O | |
| 0658 | " " | 5 | - | " | |
| 0658 | " " | 3 | - | " | |
| 0700 | Momp Shearwater | 2 | - | ② | |
| 0704 | Wedge-tail Shearwater | 3 | - | ③ - dark phase | |
| 0705 | Leach's Petrel | 2 | - | on H ₂ O | |
| 0707 | " " | 7 | - | " | |
| 0708 | Red-footed Booby | 1 | - | ④ - subadult - almost adult light phase | |
| 0715 | Leach's Petrel | 1 | - | on H ₂ O | at 0710 there are still 60 ± Leach's Petrel flying at various distances & directions from ship |
| 0724 | " " | 1 | - | 5 | heavily for good view? |
| 0724 | " " | 4 | - | 5 | |
| 0724 | " " | 1 | - | 5 | |



Ship
Direction

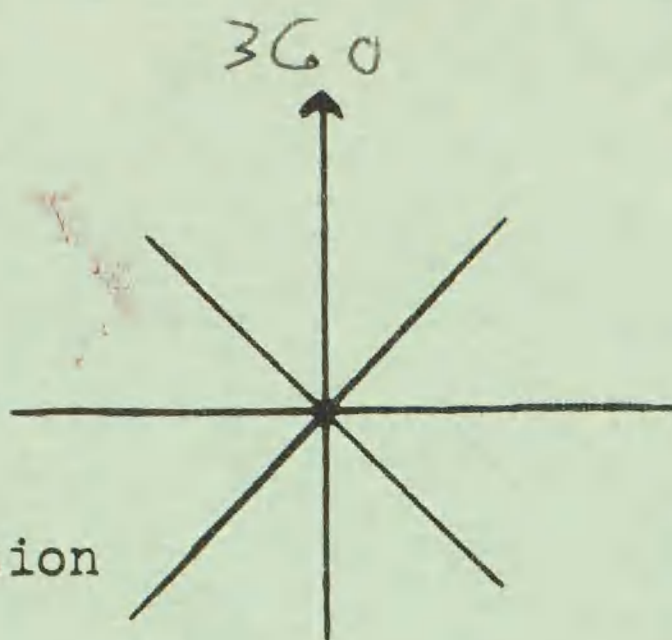
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

[Signature]

Date 25 July 1967
Pg. # 3

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|------|----------------------|---|----------|----------|-------------------------------------|
| 0726 | Lesser Frigatebird | 1 | ⊙ | | |
| 0728 | " " | 2 | on 4.0 | | |
| 0729 | " " | 2 | ⊙ | | |
| 0729 | Wedgetail Shearwater | 1 | ⊙ | | |
| 0730 | " " | 1 | ⊙ | | dark phase |
| 0730 | Red-footed Booby | 1 | ⊙ | | 1st yr. |
| 0732 | Wedgetail Shearwater | 4 | ⊙ | | dark phase |
| 0734 | Pomarine Jaeger | 2 | on 14.20 | | 0733 - school of jumping skipjacks. |
| 0735 | Lesser Frigatebird | 1 | S | | dark phase |
| 0735 | " " | 1 | S | | |
| 0735 | " " | 1 | S | | |
| 0735 | " " | 1 | S | | |
| 0735 | " " | 1 | S | | |
| 0740 | " " | 1 | S | | |
| 0742 | Shearwater | 1 | on 14.20 | | dark phase |
| 0742 | Blue-footed Booby | 2 | ⊙ | | Imm. |
| 0743 | Lesser Frigatebird | 1 | S | | |
| 0744 | " " | 1 | S | | |
| 0745 | " " | 2 | S | | |
| 0747 | " " | 5 | S | | |
| " | " " | 1 | S | | |
| " | " " | 1 | S | | |
| " | Shear/Pet | 1 | ⊙ | | |
| " | Wedgetail Shearwater | 2 | ⊙ | | dark phase |
| 0749 | Lesser Frigatebird | 5 | S | | dark phase |
| 0749 | Shearwater | 1 | S | | dark phase |



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

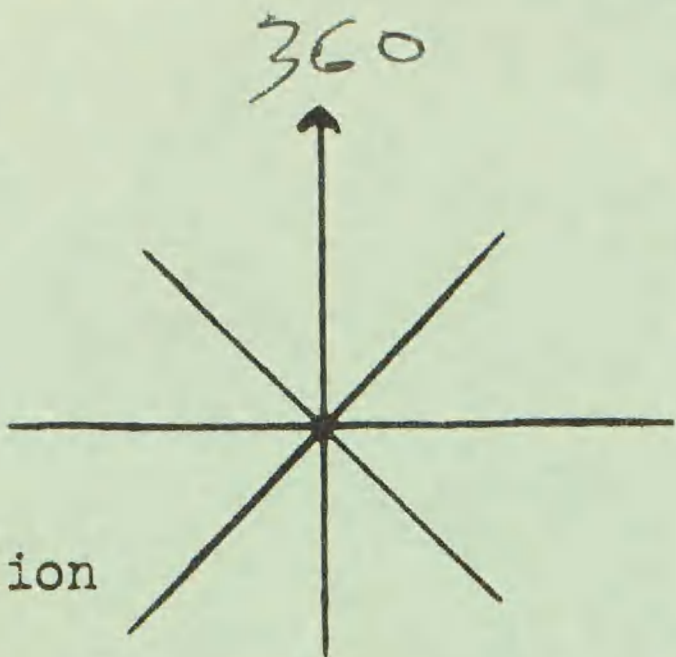
D. Gould

Date 25 July 1967
Pg. # 4

SPECIMEN
or

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|--------------------|-----------------------|------|-------|----------|---|
| 0750 To 0810 | NO obs | | | | |
| 0810 | Leach's Petrel | 3- | ⊙ | | |
| 0813 | Wedge-tail Shearwater | 1- | S | | dark phase flying like a Pterodroma |
| 0814 | " " | 1- | S | | " " " " " " " " " " " " |
| 0815 | Leach's Petrel | 1- | 420 | | |
| 0816 | Wedge-tail Shearwater | 1- | ⊙ | | dark phase |
| 0818 | Leach's Petrel | 2- | S | | |
| 0819 | Pomarine Jaeger | 1- | S | | dark phase |
| 0820 | Leach's Petrel | 7- | S | | scattered |
| 0821 | Wedge-tail Shearwater | 1- | S | | dark phase |
| 0824 | Leach's Petrel | 1- | S | | |
| 0824 | | | | | there are 2 imm blue-face boobies flying around |
| 0825 | Leach's Petrel | 25±5 | ⊙ → S | | |
| | Pomarine Jaeger | 2- | S | | light phase |
| 0830 | Leach's Petrel | 10- | S | | scattered |
| 0840 | " | 20±3 | S | | scattered |
| 0843 | Wedge-tail Shearwater | 1- | ⊙ | | |

Ship
Direction



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Good

Date 25 July 1967
Pg. # 5

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

0847 *Wing Shear*

1-

⊙

0850 *Lesser Frigate*
Petrel

6-

41
420

0851 *Pomarine*
Falcon

1-

S

light 8/10

0853 *Lesser Frigate*
Petrel

20 ± 5

⊙

rather concentrated.

0855 " "

5-

41

0857 " "

3-

420

0858 " "

1-

"

0906 *Pink-footed*
Shearwater

1-

S

0907 *Lesser Frigate*
Petrel

1-

S

0914 *Pomarine*
Falcon

1-

S

light phase

0915 *Albatross* - tail
? Shearwater

1-

S

dark phase

0916 *Kermadec*
Petrel ?

1-

S

dark phase

0920 *Lesser Frigate*
Petrel

2-

⊙

0924 *Red-bellied*
Tropicbird
Shearwater

1-

41

1-

420

Took picture (chub I.D.)

0930 *Band*

1-

41
420

larger than a at least as large as body
all chocolate brown - looked like a
Skua -

0931 *Shear/Pet*

1-

S

0931 *Lesser Frigate*
Petrel

1-

S

0933 *Red-footed*
Booby

3-

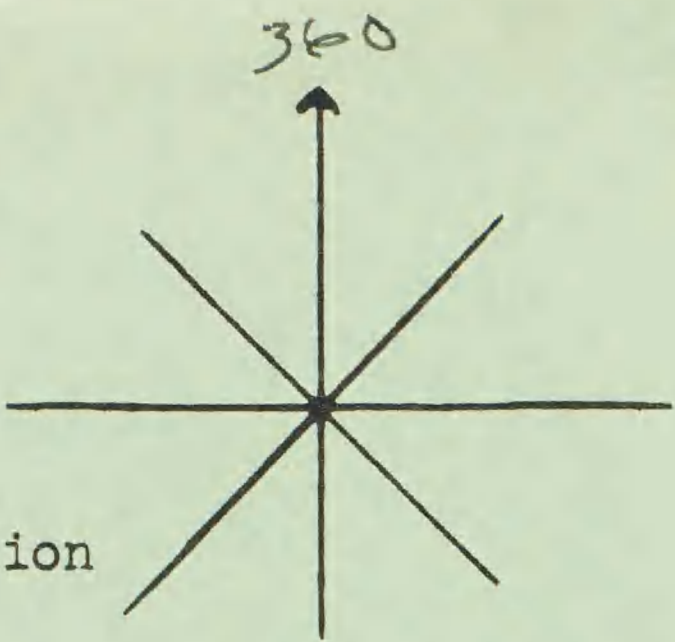
⊙

1-yr.

0934 *Lesser Frigate*
Petrel

1-

S



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

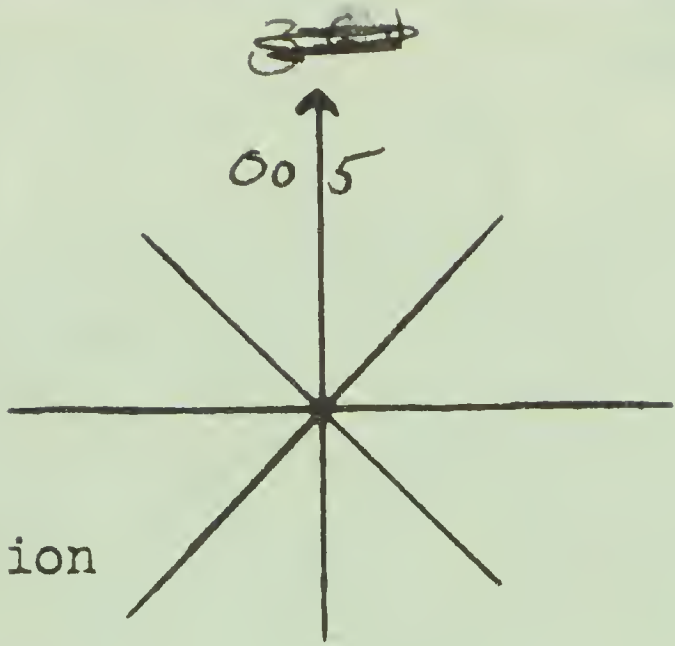
[Signature]

Date 25 July 1967
Pg. # 6

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

| | | | | | |
|------|-----------------------|-----|----|------|--|
| 0935 | Wedge-tail Shearwater | 1- | S | | dark phase |
| 0936 | " | 1- | S | | " " |
| 0937 | Leach's Petrel | 1- | ⊙ | | |
| 0940 | Pomarine Jaeger | 1- | ⊙ | | light phase |
| 0945 | Seal | 1- | ⊙ | | |
| 0950 | Pterodroma | 1- | S | | |
| 0954 | Leach's Petrel | 3- | SE | | |
| 0957 | " | 1- | " | | |
| 1000 | " | 2- | ⊙ | | |
| 1000 | Blue-foot Booby | 3- | ⊙ | Imm. | |
| 1003 | Leach's Petrel | 2- | ⊙ | | |
| 1007 | Wedge-tail Shearwater | 1- | ⊙ | | |
| 1009 | Leach's Petrel | 1- | SE | | |
| 1009 | Wedge-tail | 1- | " | | dark phase |
| 1014 | Leach's Petrel | 1- | SE | | |
| 1017 | " | 1- | S | | |
| 1019 | " | 6-7 | SE | | |
| | Wedge-tail Shearwater | 15 | SE | | dark phase |
| 1021 | " | 1- | SE | | " " |
| 1022 | Wedge-tail | 1- | SE | | light phase |
| 1027 | Leach's Petrel | 1- | SE | | |
| 1029 | " " | 1- | ⊙ | | |
| 1030 | Boobys | 2- | ⊙ | | Imm. all light brown and dark longer than Red-foot. |



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. J. Gould

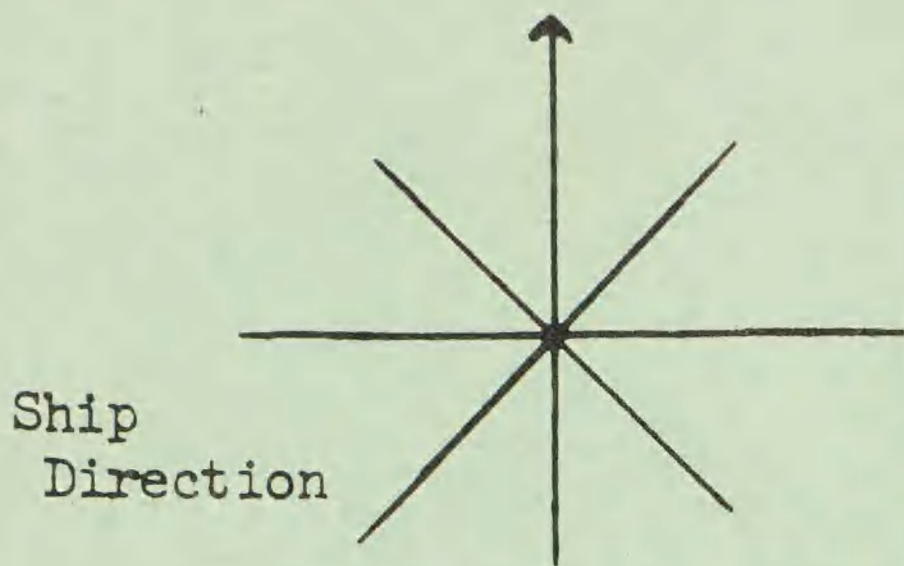
Date 25 July 1967
Pg. # 2

SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

| | | | | | |
|--------------|-----------------------|----------------|------------------------|--|---|
| 1030 1400 | no obs | | | | surface H ₂ O temp. = 28.3° " " Salinity = 34.00 |
| 1400 | Blue-face Booby | 3 1 | | | on water, 28 spec., 4 blue face Booby |
| | Red-footed Booby | 9- | | | 1 bird with white head & lower parts. rest all light brown with dark chest band - Birds still flying around at 1410 still present at 1430, 3 Blue-face still around at 1500 |
| 1415 | frigatebird petrel | 1 - | ⊙ | | |
| 1420 | shear/pet | 2 - | S | | |
| 1430 | Star Petrel | 2 - | ⊙ | | |
| 1438 | " " | 1 - | ⊙ | | |
| 1438 | frigatebird petrel | 1 - | ⊙ | | |
| 1444 | shear/pet | 1 - | S | | all dark |
| 1445 | " " | 1 - | S | | " " |
| 1514 | Wedge shearwater | 1 - | ⊙ | | |
| 1520 | Red-footed Booby | 2 - | over ship | | 1 st yr. all brown with darker chest band back again at 1550 |
| 1535 | Wedge shearwater | 1 - | on the | | |
| 1540 | frigatebird petrel | 1 - | S | | |
| 1541 | " " | 1 - | on H ₂ O | | |
| 1555 | shear/ Harcourt | 1 - | on H ₂ O | | |
| | Sooty petrel | 2 - | " | | |
| | | | | | 1558 Flock of Booby Blue-face = 3 Red-foot = 10 |



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. J. Gould

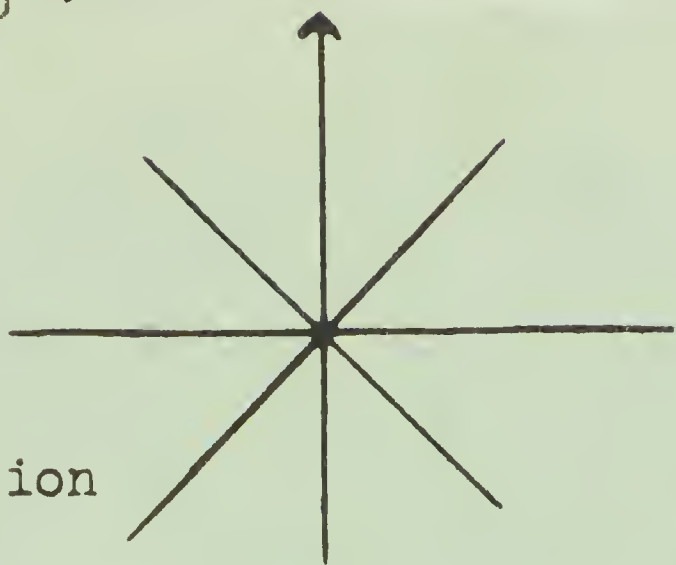
Date 25 Feb 1967
Pg. # 5

SPECIMEN
or

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|--------------------|---------------------|----------|------|----------|--------------------------|
| 1600 to 1700 | no obs | | | | |
| 1700 | Red-footed Booby | 3 - | ⊙ | | 1st yr. |
| 1700 | Storm Petrel | 2 - | ⊙ | | Leach/Harcourt / Sooties |
| 1725 | Red-footed Booby | 26 ± 2 ± | | | 1 sub ad red imm. |
| | Blue face booby | 4 ± 1 - | | | Imm |
| 1730 | Leach/n Harcourt | 1 - | NE | | |

*Secure Observation
observed 1856*

31
159
43
77
53
30
54
Ship
Direction



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. Gould

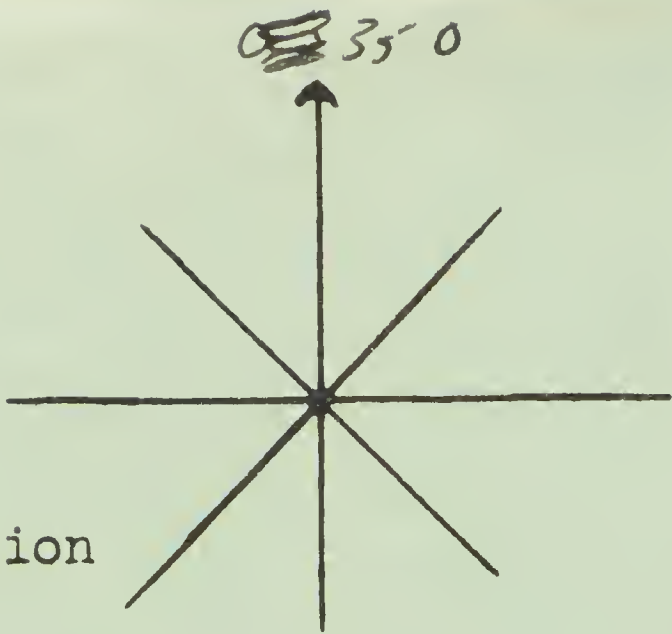
Date 26 July 1967
Pg. # 1

SPECIMEN
or

Survive = 0515

begin observations - 0530

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|--------------------|---------------------|----------|------------------------|----------|---|
| 0530 | Red-footed Booby | 1 | ⊙ | | 1st yr. |
| 0535 | Tropicbird | 1- 2- | on H ₂ O | | + flying around, other two birds looked like boobies but they were quite far away |
| 0555 | Red-footed Booby | 1 | ⊙ | | 1st yr. joined 0530 bird flying around ship still present at 0645 |
| 0606 | Red-tail Tropicbird | 1 | on H ₂ O | | ad. |
| 0616 | Blue-face Booby | 1 | ⊙ | | Imm. |
| 0632 | Booby | 1 | ⊙ | | large, mostly white, in distance |
| 0637 | Manx Shearwater | 2 | S | | |
| 0637 | Phalarope | 1 | S | | decent |
| 0654 | Kermadec Petrel | 1 | on H ₂ O | | dark phase |
| 0700 | Blue-face Booby | 1 | on H ₂ O | | adult seen earlier |
| 0708 | Tropicbird | 1 | on H ₂ O | | decent |
| 0715 | Blue-face Booby | 1 | ⊙ | | from with the ad + from from earlier |
| 0716 | " | 1 | S | | adult - different bird from last adult. |
| 0730 To 0750 | no obs | | | | Sea Turtles at 0740-7 |
| 0827 | Red-bill Tropicbird | 2 | ⊙ | | adult around for 5 minutes |
| 0845 | " | 1 | ← | | adult with above two |
| 0941 | " | 1 | on H ₂ O | | half |



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

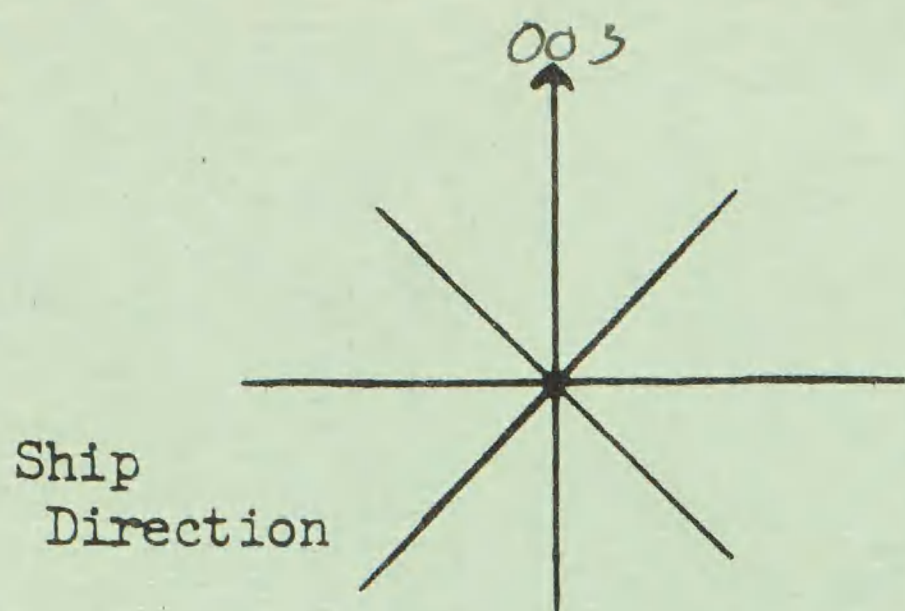
OBSERVERS:

P. Gould

Date 26 July
Pg. # 2 1967

SPECIMEN
or

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|--------------------|-------------------------|---|--------|---------------------|--|
| 0958 | Red-footed Booby | 1 | on 420 | 1 st yr. | 0956 - Red-bell Tropicbird ^{adult} on 1120 probably same bird as at 0941 - again at 1010 (same bird?) |
| 1015 To 1350 | NO obs. | | | | |
| 1401 | Sooty Petrel | 1 | ⊙ | | |
| 1431 | Mant Shearwater | 1 | W | | Traveling fast |
| 1438 | Flesh/n Harcourt Petrel | 4 | ⊙ | | |
| | Ashy Petrel | 5 | | | Look almost twice size of flesh'n wing birds very rapid none like a shearbird - otherwise look like shearwaters with long wings. |
| 1440 | Blue-face Booby | 2 | | | on floating piece of wood 1 ad, 1 sub. ad. |
| 1442 | Red-foot Booby | 1 | | | on floating piece of wood, 1 st yr. |
| 1442 | Mant Shearwater | 1 | ⊙ | | |
| | | | | | change course to 0030 at 1510 |
| 1515 | Red-footed Booby | 4 | 5 | | Immature (Red-footed) |
| 1552 | Mant Shearwater | 2 | on 420 | | flushed in front of ship |
| 1600 To 1710 | NO obs. | | | | |
| 1738 | Sooty Shearwater | 1 | on 420 | | Two immature boobies around ship at 1710, one was a Red-foot. 1 st yr. 1710 = slow speed not tow 1725 = same full speed |



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. Gould

Date 26 July 1967
Pg. # 3

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

1750

Red-footed
Booby

5-

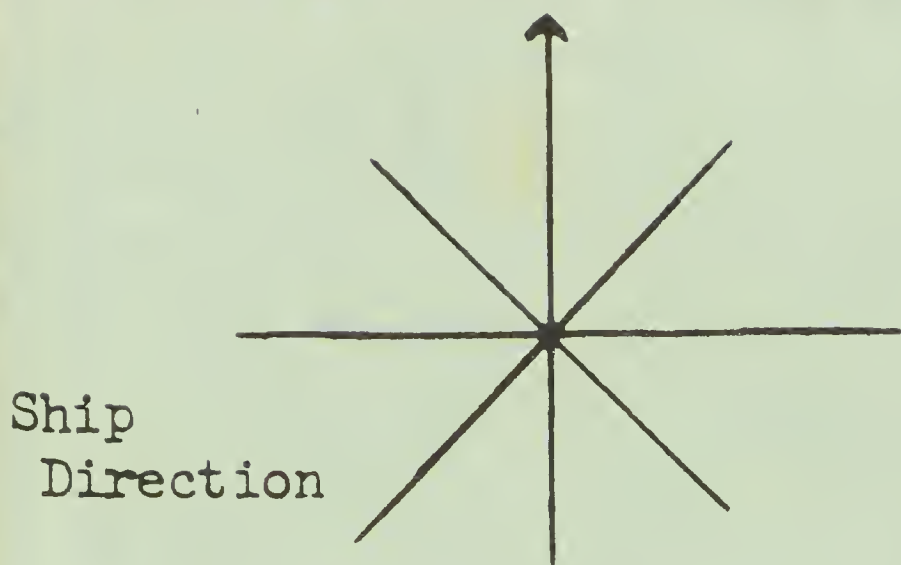
Ⓢ

1st yrs.

~~one collected by Bill Calder~~

Second watch at sunset

~~Ⓢ~~ 1801



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

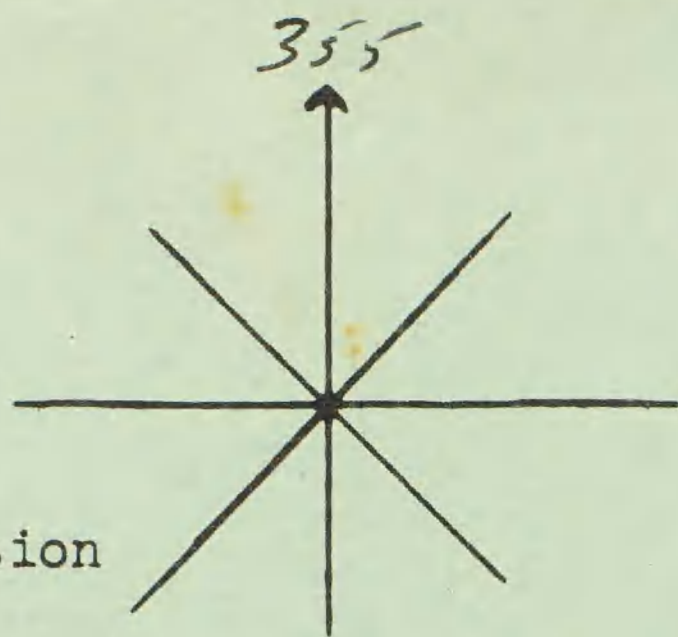
OBSERVERS:

Date 26 July 1967
Pg. # 4

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

| | | | | | |
|------|-----------------|----|---|--|---|
| 1900 | Manx Shearwater | 2 | ⊙ | | begin obs = 1900 end obs = 1945 Placed around ship the whole 45 mins |
| 1930 | Tern | 3+ | ⊙ | | several were white below and are called like an Immature Sooty Tern but I'm not familiar enough with immature Tern calls to be sure. |



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

J. Gould

Date *27 July 1967*
Pg. # *1*

SPECIMEN
or

sunrise = 0512

TIME SPECIES # DIR. BAND NO. REMARKS *begin observation = 0645*

0648 *Pink-footed?* 2 - W *could have been light phase white tail shear.*
Shearwater

0655 " 1 - W " " " " " "

0708 *Shearwater?* 1 W *white below grey above - did not see*

0710 *Shearwater* 1 Q *white below*
mark? *a wing stripe, dorsal surface looked*
very uniform.

0730 *no*
To
0755 *Ob* *chase comes to at 0737*

0800 *Blue-face* 10 on *8 adults, 2 1st yr. = bill yellow or orange*
Booby 109 *a turtle + many fish under log.*

0800 *Magnificent* 1 © *Immature - no wing bar.*
Frigatebird

0829 *Freckle/n* 1 © *1026 - Sea Snake*
Heron

0830 *many* 2 ✓
Shearwater

Seems watch 0900

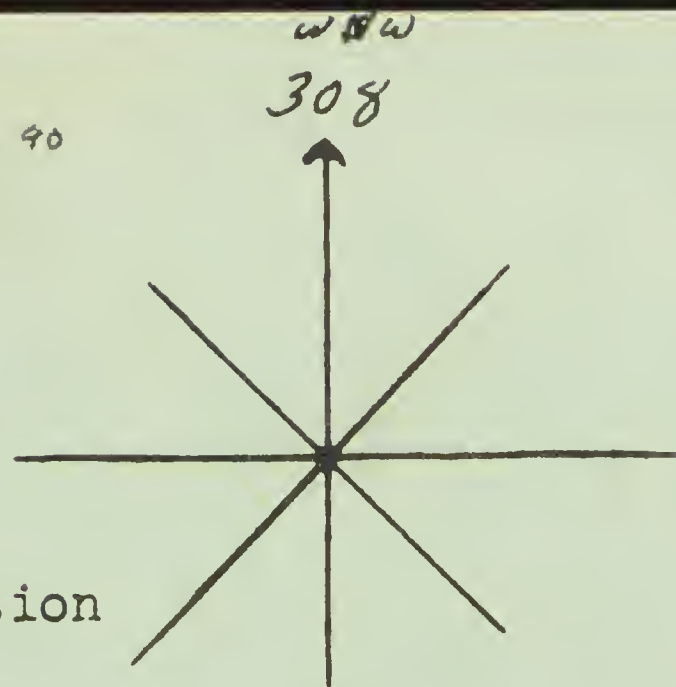
1.45
1.00
2.45

19

3.2
28180.000
24
60
56
116

3.0
2.5
41.0
10.0
23.40

Ship
Direction



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

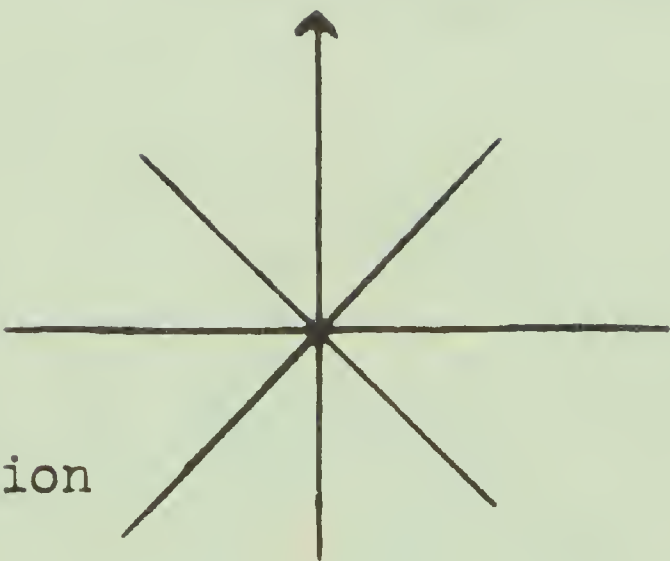
OBSERVERS:

R. Gould

Date 29 July 1967
Pg. # 1

SPECIMEN
or

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|------|-------------------------|----|-----------------|----------|---|
| | | | | | <i>begin observations = 0800</i> |
| 0801 | Manx Shearwater | 1 | W | | |
| 0810 | bird | 1 | | | |
| 0813 | Leach Petrel | 1 | W | | |
| 0814 | Black Petrel | 2 | NE | | |
| 0818 | Shear/Pet | 2 | W | | all brownish, flying, low, constant wing beats |
| 0818 | Black Petrel | 4 | W | | interrupted by an occasional but very brief glide, looked size of Sooty Tern. |
| 0822 | Phalarope | 7 | W | | as at 0814 - could be Sooty Tern. |
| 0823 | Shearwater | 1 | H ₂₀ | | |
| 0827 | Black Petrel | 1 | W | | large |
| 0827 | Manx Shearwater | 1 | W | | as at 0814 |
| 0828 | Black Petrel | 1 | SW | | |
| 0830 | Terns | 4 | W | | in distance |
| 0830 | Manx Shearwater | 1 | SW | | |
| 0833 | Black Petrel | 1 | SW | | |
| 0834 | Manx Shearwater | 1 | SW | | as at 0814 |
| 0834 | " " | 1 | SW | | |
| 0835 | Pomarine Jaeger | 1 | W | | light plum |
| 0837 | Pilot whale | 5+ | S | | |
| 0848 | Manx Shearwater | 1 | W | | |
| 0850 | Black Petrel | 1 | W | | as at 0814 |
| 0856 | Shearwater | 1 | | | |
| 0858 | Manx Shearwater | 2 | H ₂₀ | | |
| 0900 | Phalarope | 2 | | | |
| | Manx Shearwater | 1 | W | | |



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. J. Gould

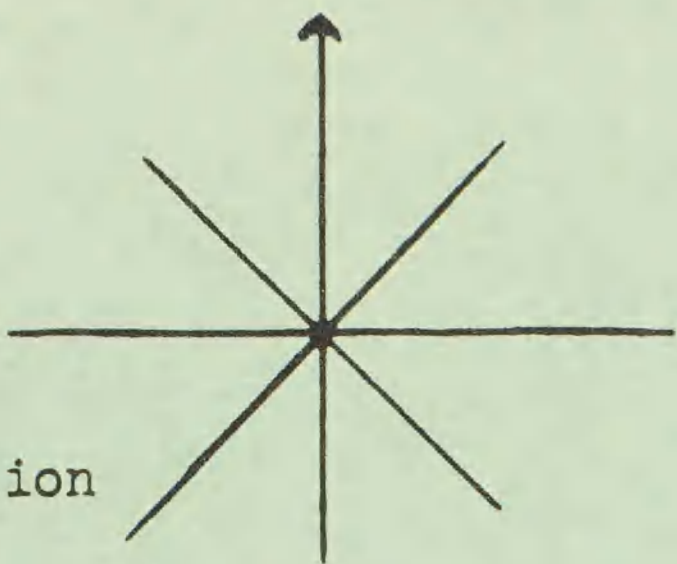
Date 29 July 1967
Pg. # 2

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

| | | | | | |
|--------------------|----------------------|---------|------------------------|-------|-----------------------------|
| 0903 | Black Stom Petrel | 1 - | ⊙ | | |
| 0903 | Stom Petrel | 1 - | ⊙ | | |
| 0905 | Phalarope | 1 - | → W | | |
| 0910 to 0913 | Flock | | | | feeding |
| | Brown Booby | 25 ± 2 | | | |
| | Black Stom Petrel | 1 - | | | along with small |
| | Stom Petrel | 2 - | | | |
| | Shore Pet | 5 - | | | |
| | Porpoise | 40 + | | | 2 turtles in area |
| 0914 | Phalarope | 15 ± 2 | SW | | |
| 0915 | Manx Shear water | 2 - | SE | | heading for flock |
| 0915 | " | 1 - | " | | " " " |
| 0918 | " | 1 - | " | | " " " |
| 0916 | Black Stom Petrel | 1 - | ⊙ | | large & dark |
| 0917 | Manx Shearwater | 4 - | S | | heading for flock |
| | Brown Booby | 1 - | S | | " " " |
| 0919 | Manx Shearwater | 1 - | ⊙ | | |
| 0919 | Brown Booby | 1 - | S | | |
| 0921 | Manx Shearwater | 1 - | SE | | |
| 0925 | " | 1 - | W | | |
| 0929 | Manx Shearwater | 50 ± 10 | on H ₂ O | | |
| 0930 | Black Stom Petrel | 1 - | ⊙ | large | |
| 0941 | Brown Booby | 1 - | ⊙ | | |
| 0941 | Frigatebird | 1 - | ⊙ | | |

Ship
Direction



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. Gould

Date 29 July 1967
Pg. # 3

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS

| | | | | | |
|------|--------------------|---|----|--|--|
| 0945 | Manx Shearwater | 1 | SE | | |
| 0949 | Black Storm Petrel | 1 | ⊙ | | |
| 0949 | Shear/pet | 1 | ⊙ | | |
| 0951 | Black Storm Petrel | 3 | NE | | |
| 0954 | " " | 1 | SW | | |
| 0955 | " " | 1 | SW | | |
| 0956 | " " | 1 | W | | |
| 0957 | " " | 1 | ⊙ | | |
| 0958 | Manx Shearwater | 1 | ⊙ | | |

1000
To
1600
265

| | | | | | |
|------|-----------------|--------|---|--|--|
| 1647 | Manx Shearwater | 1 | ⊙ | | |
| 1655 | Brown Booby | 8 | N | | |
| | " | 20 ± 5 | N | | |
| 1657 | " | 10 ± 2 | N | | |
| 1657 | " | 12 | N | | |
| 1658 | " | 15 ± 3 | N | | |
| 1659 | " | 3 | N | | |
| 1659 | " | 5 | N | | |

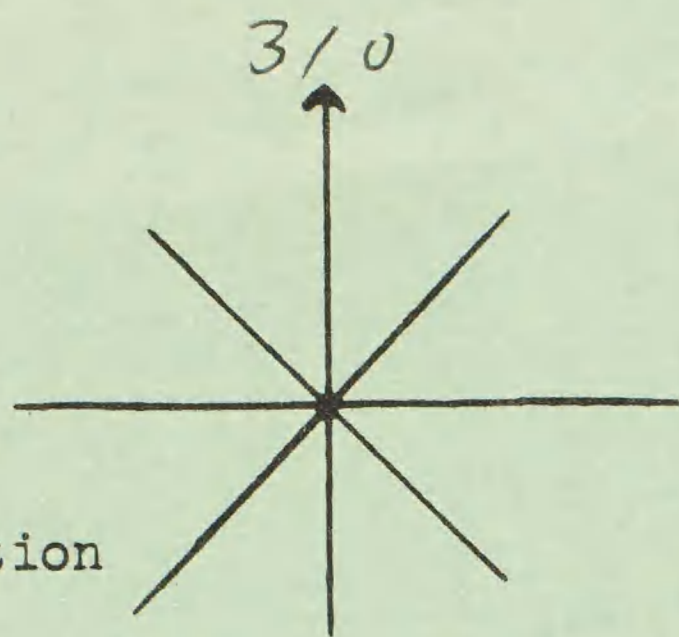
| | | | | | |
|------|--------------------|----|-------------|--|--|
| 1700 | Black Storm Petrel | 1 | Follow ship | | |
| 1708 | Brown Booby | 17 | N | | |
| 1711 | Black Storm Petrel | 2 | Follow ship | | |

traveling in a formation (straggled line) low to water

[*in* North is directly towards Tres Marias Is. ca. 50 miles]

traveling in formation (straggled line) low to water

now 3 following



| Ship | Direction |
|------|-----------|
| 1 | 1 |
| 2 | 2 |
| 3 | 3 |
| 4 | 4 |
| 5 | 5 |
| 6 | 6 |
| 7 | 7 |
| 8 | 8 |
| 9 | 9 |
| 10 | 10 |
| 11 | 11 |
| 12 | 12 |
| 13 | 13 |
| 14 | 14 |
| 15 | 15 |
| 16 | 16 |
| 17 | 17 |
| 18 | 18 |
| 19 | 19 |
| 20 | 20 |
| 21 | 21 |
| 22 | 22 |
| 23 | 23 |
| 24 | 24 |
| 25 | 25 |
| 26 | 26 |
| 27 | 27 |
| 28 | 28 |
| 29 | 29 |
| 30 | 30 |
| 31 | 31 |
| 32 | 32 |
| 33 | 33 |
| 34 | 34 |
| 35 | 35 |
| 36 | 36 |
| 37 | 37 |
| 38 | 38 |
| 39 | 39 |
| 40 | 40 |
| 41 | 41 |
| 42 | 42 |
| 43 | 43 |
| 44 | 44 |
| 45 | 45 |
| 46 | 46 |
| 47 | 47 |
| 48 | 48 |
| 49 | 49 |
| 50 | 50 |
| 51 | 51 |
| 52 | 52 |
| 53 | 53 |
| 54 | 54 |
| 55 | 55 |
| 56 | 56 |
| 57 | 57 |
| 58 | 58 |
| 59 | 59 |
| 60 | 60 |
| 61 | 61 |
| 62 | 62 |
| 63 | 63 |
| 64 | 64 |
| 65 | 65 |
| 66 | 66 |
| 67 | 67 |
| 68 | 68 |
| 69 | 69 |
| 70 | 70 |
| 71 | 71 |
| 72 | 72 |
| 73 | 73 |
| 74 | 74 |
| 75 | 75 |
| 76 | 76 |
| 77 | 77 |
| 78 | 78 |
| 79 | 79 |
| 80 | 80 |
| 81 | 81 |
| 82 | 82 |
| 83 | 83 |
| 84 | 84 |
| 85 | 85 |
| 86 | 86 |
| 87 | 87 |
| 88 | 88 |
| 89 | 89 |
| 90 | 90 |
| 91 | 91 |
| 92 | 92 |
| 93 | 93 |
| 94 | 94 |
| 95 | 95 |
| 96 | 96 |
| 97 | 97 |
| 98 | 98 |
| 99 | 99 |
| 100 | 100 |

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

SPECIMEN
or

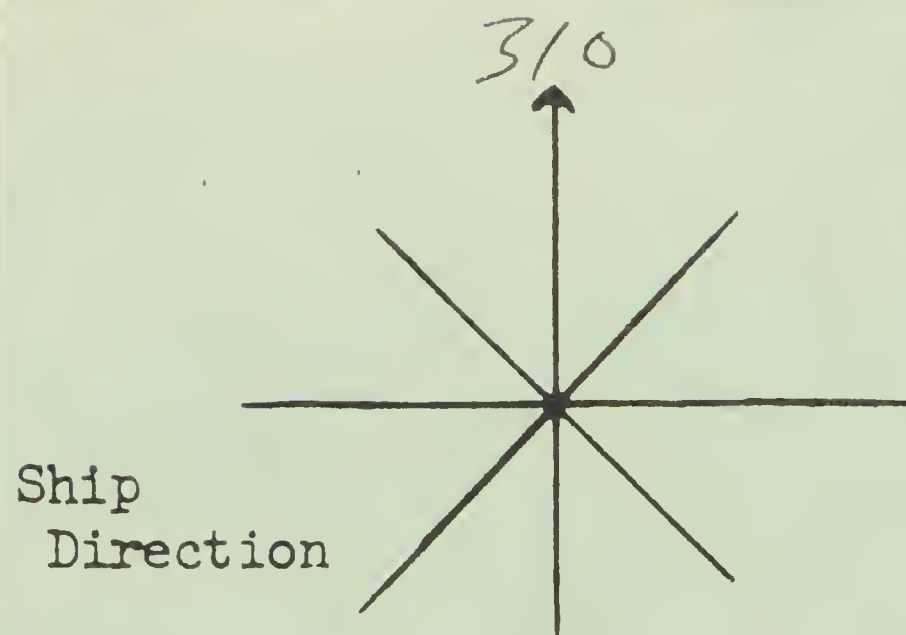
Summa = 0516
Summa = 1848

OBSERVERS:

Agood

Date 29 July 1967
Pg. # 7

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|--|-------------------|---|-------|----------|---------|
| 1712 | Laysan Petrel | 1 | 70/60 | | |
| 1815 | Mann's Shearwater | 1 | NE | | |
| <p>Scarcely observation at sunset 1845</p> | | | | | |



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

P. J. Gould

Date *30 July 1967*
Pg. # *1*

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS *begin = 0805*

0807 Storm Petrel 1- (C) — Small & very light flight - mostly
ashy or f-eal but not seen well enough

0836 Birds 50 ± 5 E — very high flying in formation but too far
away to see anything but black dots.

0900 Leach Petrel 7 ± 1 (C) —
0904 Phalarope 8- NE —
0907 Leach Petrel 1- (C) — flying in straight line formation

0910 no
To obs.
1000

1006 Storm Petrel 2- (C) — Leach's?

1006 Black Storm Petrel 1- Follow ship — followed until 1015 then left.

1012 Storm Petrel 1- Follow ship — with 1006 Black Petrel

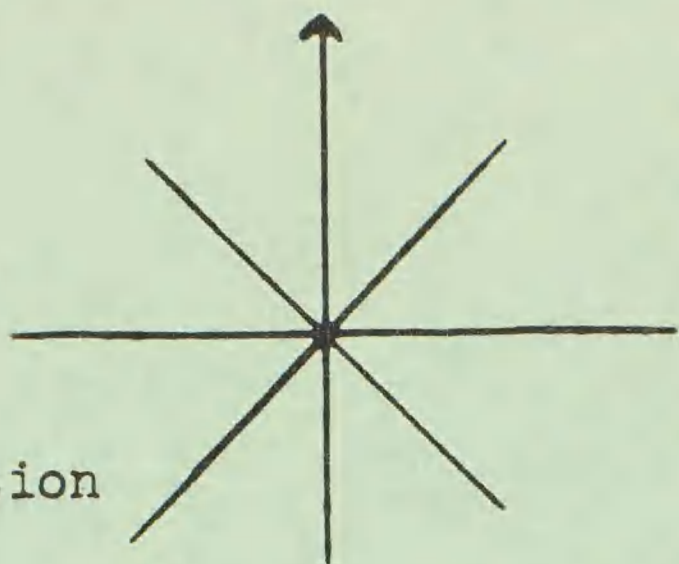
1023 " " 1- (C)

1030 no
To obs.
1550

1630 whale 1- —
1634 Phalarope 7- — 1550 - we are now right off Cape San Lucas
large group

1635 Black Storm Petrel 1-

1640
to
1700



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Greif

Date 30 July 1967
Pg. # 0

SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

1700
to
1720

Northern
Phalarope

5000 -
1500

—

mostly flying, south or sitting on the

Cassin
Puklet

3

SW

~~SW~~

Xantus
murrelet

1

cm
1420

Mont
Shearwater

1

⊙

Leach Petrel

4+

⊙

Storm Petrel

1

⊙

small, butterfly flight may be dark or grey

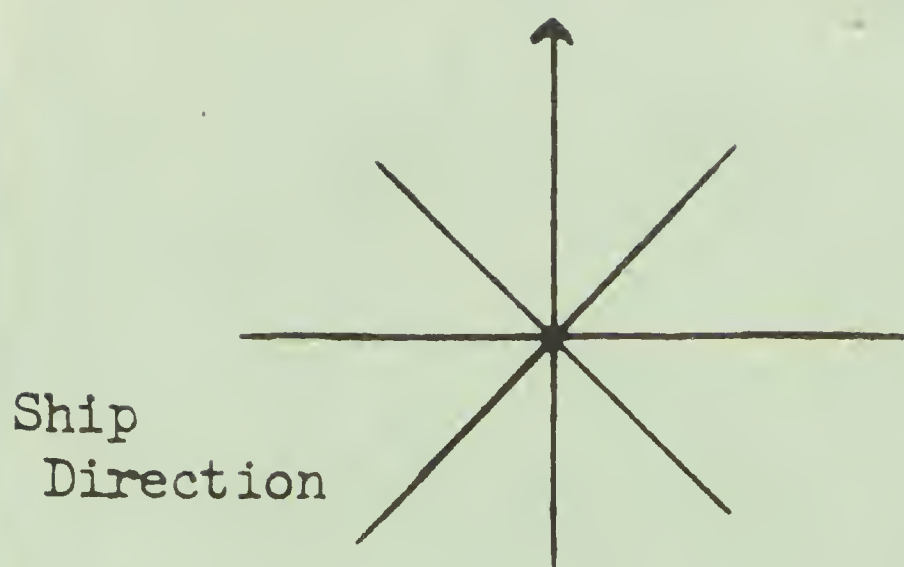
Ashy Petrel

1

⊙

well seen, size of Leach, which mostly to under wing.

by 1730 there were only a few
Phalaropes flying around



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

B. Gould

Date 31 July 1967
Pg. # 1

SPECIMEN
or

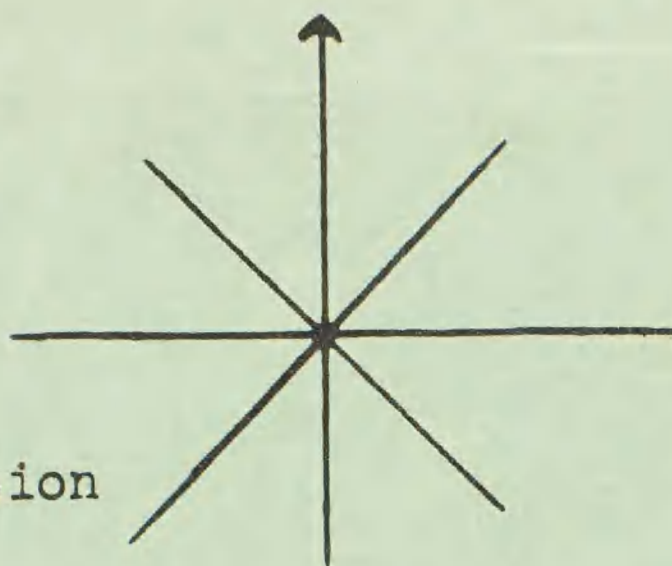
TIME SPECIES # DIR. BAND NO. REMARKS

| | | | | | |
|--------------------|-------------------------|-------|--|--|-------------------|
| 8:30 To 9:30 | Brown Pelican | 30±5 | | | off Magdalena Bay |
| | Royal Tern | 45±10 | | | |
| | Cassin Auklet | 25±5 | | | |
| | Xantus Humbird | 3 | | | |
| | Northern Phalarope | 50±10 | | | |
| | Heermann Gull | 25±5 | | | |
| | Western Gull | 5± | | | |
| | Magnificent Frigatebird | 4 | | | |
| | Murre Shearwater | 40±10 | | | |
| | Porpoise | 50+ | | | |
| | Black Storm Petrel | 1 | | | |
| | Leach Petrel | 5±2 | | | |

| | | | | | |
|--------------------|------------------------|-------------|--|--|---|
| 1645 To 1715 | Northern Phalarope | 10,000±2500 | | | area swarming with birds |
| | Red Phalarope | 10±5 | | | |
| | Murre Shearwater | 175±25 | | | Very little indication of white on wings |
| | Pink-footed Shearwater | 100±25 | | | |
| | Leach Petrel | 200±25 | | | in one flock (very tightly packed together) |
| | Black Petrel | 10±2 | | | with Leach's |
| | Pale-foot Shearwater | 1 | | | |
| | Cook Petrel | 100±25 | | | well observed, head concealed with grey back, <u>no</u> black border to underwing |
| | Kermadec Petrel? | 1 | | | |
| | Alcid | 1 | | | |

| | | | | | |
|------|-----------------|-----|--|--|--|
| 1800 | Baird's Dolphin | 25+ | | | Delphinus bairdi playing around bow of ship |
|------|-----------------|-----|--|--|--|

Ship
Direction



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

G. J. Gould

Date 01 August 1967
Pg. # 1

SPECIMEN
or

TIME SPECIES # DIR. BAND NO. REMARKS *begin obs. 0840*

0845 flock
Pink footed
Shearwater 50 ± 10 on
Sooty Shear 5 ± 1 420
Mant Shearwater 3 "

0845 Many Porpoise in area also school of 13 and fish

Seal on water

0855 flock
Sooty Shear 50 ± 5
Pink-footed
Shear 15 ± 5
Mant 5 ± 2

*Scattered Pink-footed on
Mant Shearwater*

0900 Heermann Gull 1 - Im

0907 Western Gull 1 - Ad

0915 Northern Phalarope 3 -

0920 flock
Pink footed
Shearwater 35 ± 7 on
420

0935 Western Gull 3 - Imm. 1st yr.

0937 Northern
Phalarope 50 ± 2

0938 Brown Pelican 1 -

0939 Northern Phalarope 15 -

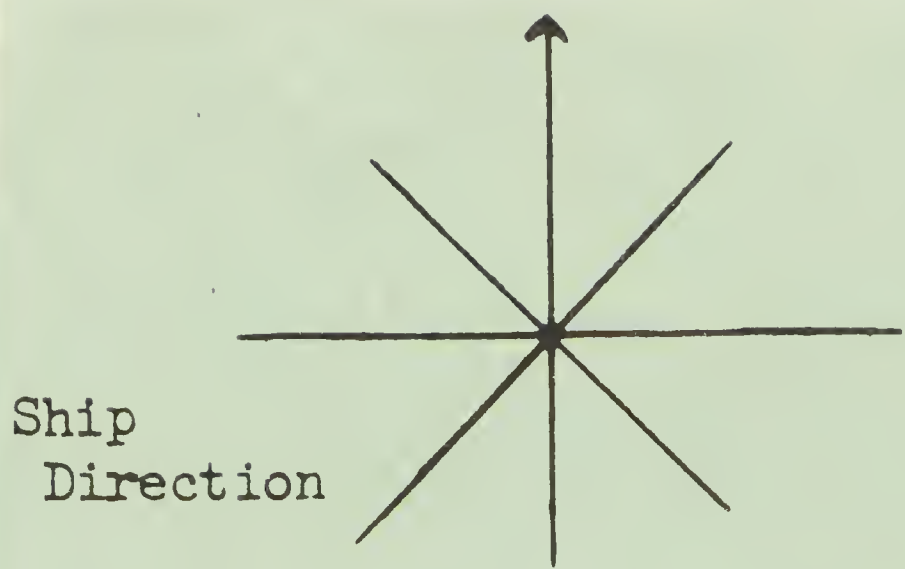
0940 flock
Mant Shearwater 80 ± 5 -
Pink footed 60 ± 5 -

0945 Brandt's
Cormorant 2 -

0955 Brown Pelican 1 -

0958 Western Gull 3 - Ad

1000 Cormorant 8 -



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 01 August 1967
Pg. # 2

SPECIMEN
or

| TIME | SPECIES | # | DIR. | BAND NO. | REMARKS |
|--------------------|------------------------|--------|------|----------|--|
| 1002 | Bron & Crest | 8 | | | Many Cormorants Pelican. |
| 1004 | Bron Pelican | 8 | | | |
| 1008 | Red-bill Tropicbird | 1 | | | |
| 1015 To 1700 | 20 000. | | | | at 1015 we were between marked & unmarked. |
| 1700 To 1730 | Ashy Petrel | 25 ± 5 | | | scattered about ship |

Date 15 June 1967 Ship D.S. JORDAN () Cruise No. 0002

Organization EASTROPAC #39 Recorder _____

Sunrise: Time 0548 Position: Lat. 30° 56' N, Long. 117° 31' W

Sunset: Time 1951 Position: Lat. 28° 19' N, Long. 117° 58' W

Miles travelled from 0000 hours to sunrise = _____ *ave sp. 11.2*

Miles travelled from sunrise to sunset = 158

Miles travelled from sunset to 2400 hours = 47

| | TIME OF FIX | TYPE OF FIX | LATITUDE | LONGITUDE |
|----|-------------|-------------|----------|-----------|
| 1. | 1339 | RADAR | 29° 30' | 117° 52' |
| 2. | 1500 | " | 29° 15' | 117° 55' |
| 3. | 1524 | " | 29° 10' | 117° 55' |
| 4. | | | | |
| 5. | | | | |

Hourly Positions:

Time Latitude Longitude Wind Dir. Wind Sp. Wave Dir. Wave Hgt.

| | | | | | | |
|------|-------|--------|--|--|--|--|
| 0100 | | | | | | |
| 0200 | | | | | | |
| 0300 | | | | | | |
| 0400 | 31 15 | 117 27 | | | | |
| 0500 | 31 04 | 117 29 | | | | |
| 0600 | 30 53 | 117 31 | | | | |
| 0700 | 30 42 | 117 33 | | | | |
| 0800 | 30 31 | 117 36 | | | | |
| 0900 | 30 19 | 117 38 | | | | |
| 1000 | 30 08 | 117 40 | | | | |
| 1100 | 29 57 | 117 43 | | | | |
| 1200 | 29 46 | 117 45 | | | | |
| 1300 | 29 36 | 117 48 | | | | |
| 1400 | 29 26 | 117 51 | | | | |
| 1500 | 29 15 | 117 55 | | | | |
| 1600 | 29 04 | 117 55 | | | | |
| 1700 | 28 53 | 117 55 | | | | |
| 1800 | 28 41 | 117 57 | | | | |
| 1900 | 28 30 | 117 58 | | | | |
| 2000 | 28 18 | 117 58 | | | | |
| 2100 | 28 06 | 117 59 | | | | |
| 2200 | 28 55 | 117 59 | | | | |
| 2300 | 28 44 | 118 00 | | | | |
| 2400 | 27 33 | 118 01 | | | | |

Ships Dir Spd. 190° 11.2 knots
On 1951 mi E GUADALUPE Island from 1500-1700 hrs.

Observation periods for Day

| | <u>miles</u> | <u>hours</u> |
|-------------|--------------|--------------|
| 0548-0740 = | 21 | 1.9 |
| 0752-1043 = | 32 | 2.8 |
| 1305-1615 = | 36 | 3.2 |
| 1650-1950 = | 26 | 2.2 |

Total = 115 10.1

Date 16 June 1967 Ship D.S. Jordan () Cruise No. 0002

Organization Eastropac #30 Recorder P. Gould

0558-0725

0742-1115

1315-1615

1655-1950

Sunrise: Time 0558 Position: Lat. 26°26'N Long. 118°04'W

Sunset: Time 1942 Position: Lat. 23°48'N Long. 118°15'W

Miles travelled from 0000 hours to sunrise = 67 ave sp 11.3

Miles travelled from sunrise to sunset = 171

Miles travelled from sunset to 2400 hours = 49

| | TIME OF FIX | TYPE OF FIX | LATITUDE | LONGITUDE |
|--|-------------|-------------|----------|-----------|
|--|-------------|-------------|----------|-----------|

| | | | | |
|----|-------------|------------|----------------|-----------------|
| 1. | <u>1253</u> | <u>sun</u> | <u>25°03'N</u> | <u>118°10'W</u> |
|----|-------------|------------|----------------|-----------------|

2.

3.

4.

5.

Hourly Positions:

| Time | Latitude | Longitude | Wind Dir. | Wind Sp. | Wave Dir. | Wave Hgt. |
|------|----------|-----------|-----------|----------|-----------|-----------|
|------|----------|-----------|-----------|----------|-----------|-----------|

| | | | | | | |
|------|--------|--------|--|--|--|--|
| 0100 | 27 22 | 118 02 | | | | |
| 0200 | 27 17 | 118 02 | | | | |
| 0300 | 27 09 | 118 03 | | | | |
| 0400 | 26 49 | 118 03 | | | | |
| 0500 | 26 38 | 118 04 | | | | |
| 0600 | 26 26 | 118 04 | | | | |
| 0700 | 26 14 | 118 05 | | | | |
| 0800 | 26 02 | 118 05 | | | | |
| 0900 | 25 50 | 118 06 | | | | |
| 1000 | 25 38 | 118 06 | | | | |
| 1100 | 25 26 | 118 08 | | | | |
| 1200 | 25 14 | 118 09 | | | | |
| 1300 | 25 02 | 118 11 | | | | |
| 1400 | 24 51 | 118 10 | | | | |
| 1500 | 24 40 | 118 12 | | | | |
| 1600 | 24 29 | 118 12 | | | | |
| 1700 | 24 18 | 118 13 | | | | |
| 1800 | 24 07 | 118 13 | | | | |
| 1900 | 23 56 | 118 14 | | | | |
| 2000 | 23 44 | 118 15 | | | | |
| 2100 | | | | | | |
| 2200 | | | | | | |
| 2300 | 23°13' | 118 17 | | | | |
| 2400 | | | | | | |

observed periods

| | <u>miles</u> | <u>Hours</u> |
|---------------|--------------|--------------|
| 0558 - 0726 = | 17 | 1.5 |
| 0741 - 1115 = | 44 | 3.6 |
| 1315 - 1615 = | 33 | 3.0 |
| 1655 - 1900 = | 22 | 2.1 |
| <hr/> | | |
| Total = | 116 | 10.2 |

Date 17 JUNE 1967 Ship P.S. Jordan () Cruise No. 0002

Organization Eastropal #30 Recorder P. Gould

Sunrise: Time 0617 Position: Lat. 21°56'N Long. 118°21'W

Sunset: Time 1935 Position: Lat. 20°04'N, Long. 118°30'W

Miles travelled from 0000 hours to sunrise = 71

Miles travelled from sunrise to sunset = 112

Miles travelled from sunset to 2400 hours = 31

| | TIME OF FIX | TYPE OF FIX | LATITUDE | LONGITUDE |
|----|-------------|-------------|----------|-----------|
| 1. | 0245 | | 22°37' | 118°18' |
| 2. | 0545 | | 22°06' | 118°20' |
| 3. | 0845 | | 21°34' | 118°22' |
| 4. | 1145 | | 21°05' | 118°23' |
| 5. | 1450 | | 20°30' | 118°26' |

Hourly Positions:

Time Latitude Longitude Wind Dir. Wind Sp. Wave Dir. Wave Hgt.

| | | | | | | |
|------|---------|---------|--|--|--|--|
| 0100 | | | | | | |
| 0200 | | | | | | |
| 0300 | | | | | | |
| 0400 | 22°23' | 118°19' | | | | |
| 0500 | 22°12' | 118°20' | | | | |
| 0600 | 22°00' | 118°21' | | | | |
| 0700 | 21°48' | 118°22' | | | | |
| 0800 | 21°41' | 118°22' | | | | |
| 0900 | 21°33' | 118°22' | | | | |
| 1000 | 21°22' | 118°23' | | | | |
| 1100 | 21°11' | 118°23' | | | | |
| 1200 | 21°00'W | 118°23' | | | | |
| 1300 | 20°48' | 118°24' | | | | |
| 1400 | 20°36' | 118°25' | | | | |
| 1500 | 20°28' | 118°26' | | | | |
| 1600 | 20°17' | 118°28' | | | | |
| 1700 | 20°17' | 118°28' | | | | |
| 1800 | 20°17' | 118°28' | | | | |
| 1900 | 20°10' | 118°29' | | | | |
| 2000 | | 29 | | | | |
| 2100 | | 29 | | | | |
| 2200 | | 28 | | | | |
| 2300 | | 28 | | | | |
| 2400 | 19°33' | 118°28' | | | | |

Observations:

| | <u>miles</u> | <u>Hours</u> |
|-------------|--------------|--------------|
| 0617 - 0730 | 12 | 1.2 |
| 0755 - 1115 | 34 | 3.3 |
| 1430 - 1630 | 14 | 2.0 |
| 1805 - 1935 | 11 | 1.5 |

| | | |
|-------|----|-----|
| Total | 71 | 8.0 |
|-------|----|-----|

Date 18 June 1967 Ship () Cruise No.

Organization Recorder

Sunrise: Time 0615 Position: Lat. 19°01'N Long. 118°25'W

Sunset: Time 1933 Position: Lat. 17°18'N, Long. 118°30'W

Miles travelled from 0000 hours to sunrise = 32

Miles travelled from sunrise to sunset = 104

Miles travelled from sunset to 2400 hours = 33

| | TIME OF FIX | TYPE OF FIX | LATITUDE | LONGITUDE |
|--|-------------|-------------|----------|-----------|
|--|-------------|-------------|----------|-----------|

1.

2.

3.

4.

5.

Hourly Positions:

| Time | Latitude | Longitude | Wind Dir. | Wind Sp. | Wave Dir. | Wave Hgt. |
|------|----------|-----------|-----------|----------|-----------|-----------|
|------|----------|-----------|-----------|----------|-----------|-----------|

| | | | | | | |
|------|--------|---------|--|--|--|--|
| 0100 | | | | | | |
| 0200 | | | | | | |
| 0300 | | | | | | |
| 0400 | | | | | | |
| 0500 | | | | | | |
| 0600 | 19°03' | 118°25' | | | | |
| 0700 | 18 53 | 118 24 | | | | |
| 0800 | 18°42' | 118°23' | | | | |
| 0900 | 18 31 | 118 22 | | | | |
| 1000 | 18 20 | 118 21 | | | | |
| 1100 | 18°16' | 118°20' | | | | |
| 1200 | 18°16' | 118°20' | | | | |
| 1300 | 18°12' | 118°20' | | | | |
| 1400 | 18°00' | 118°22' | | | | |
| 1500 | 17 48 | 118 27 | | | | |
| 1600 | 17°38' | 118°30' | | | | |
| 1700 | 17°38' | 118°30' | | | | |
| 1800 | 17 34 | 118 30 | | | | |
| 1900 | 17°24' | 118°30' | | | | |
| 2000 | 17°13' | 118°30' | | | | |
| 2100 | | | | | | |
| 2200 | | | | | | |
| 2300 | | | | | | |
| 2400 | 16°45' | 118°33' | | | | |

observed intervals

| | miles | hours |
|-------------|-------|-------|
| 0615 - 0750 | 18 | 1.6 |
| 0800 - 1032 | 26 | 2.5 |
| 1345 - 1603 | 30 | 2.3 |
| 1726 - 1933 | 19 | 2.1 |

Total

93

8.5

Date 19 Jan 1967 Ship () Cruise No.

Organization Recorder

Sunrise: Time 0630 Position: Lat. 15°57'N Long. 118°37'W

Sunset: Time 1924 Position: Lat. 14°17'N Long. 118°53'W

Miles travelled from 0000 hours to sunrise = 48

Miles travelled from sunrise to sunset = 99

Miles travelled from sunset to 2400 hours = 35

| | TIME OF FIX | TYPE OF FIX | LATITUDE | LONGITUDE |
|--|-------------|-------------|----------|-----------|
|--|-------------|-------------|----------|-----------|

1.

2.

3.

4.

5.

Hourly Positions:

| Time | Latitude | Longitude | Wind Dir. | Wind Sp. | Wave Dir. | Wave Hgt. |
|------|----------|-----------|-----------|----------|-----------|-----------|
|------|----------|-----------|-----------|----------|-----------|-----------|

| | | | | | | |
|------|--------|---------|--|--|--|--|
| 0100 | | | | | | |
| 0200 | | | | | | |
| 0300 | | | | | | |
| 0400 | 16° 05 | 118° 37 | | | | |
| 0500 | 16° 05 | 118 37 | | | | |
| 0600 | 16° 05 | 118 37 | | | | |
| 0700 | 15 52 | 118 35 | | | | |
| 0800 | 15° 40 | 118 34 | | | | |
| 0900 | 15 29 | 118 33 | | | | |
| 1000 | 15 18 | 118 32 | | | | |
| 1100 | 15° 13 | 118 31 | | | | |
| 1200 | 15° 13 | 118 31 | | | | |
| 1300 | 15° 09 | 118 31 | | | | |
| 1400 | 15 00 | 118 32 | | | | |
| 1500 | 14 49 | 118 32 | | | | |
| 1600 | 14 38 | 118 32 | | | | |
| 1700 | 14 38 | 118 32 | | | | |
| 1800 | 14 33 | 118 32 | | | | |
| 1900 | 14 22 | 118 33 | | | | |
| 2000 | 14° 11 | 118 33 | | | | |
| 2100 | 14° 00 | 118 33 | | | | |
| 2200 | 13 49 | 118 34 | | | | |
| 2300 | 13 43 | 118 34 | | | | |
| 2400 | 13 43 | 118 34 | | | | |

observed, points

| | <u>miles</u> | <u>hours</u> |
|-------------|--------------|--------------|
| 0630 - 0735 | 12 | 1.1 |
| 0750 - 1034 | 30 | 2.8 |
| 1325 - 1604 | 27 | 2.6 |
| 1705 - 1924 | 20 | 2.3 |
| | <hr/> | |
| | 89 | 8.8 |

Date 20 June 1967 Ship () Cruise No.

Organization Recorder

Sunrise: Time 0628 Position: Lat. 12°58'N, Long. 118°35'W

Sunset: Time 1918 Position: Lat. 11°29'N, Long. 118°34'W

Miles travelled from 0000 hours to sunrise = 44

Miles travelled from sunrise to sunset = 90

Miles travelled from sunset to 2400 hours = 37

| | TIME OF FIX | TYPE OF FIX | LATITUDE | LONGITUDE |
|--|-------------|-------------|----------|-----------|
|--|-------------|-------------|----------|-----------|

1.

2.

3.

4.

5.

Hourly Positions:

| Time | Latitude | Longitude | Wind Dir. | Wind Sp. | Wave Dir. | Wave Hgt. |
|------|----------|-----------|-----------|----------|-----------|-----------|
|------|----------|-----------|-----------|----------|-----------|-----------|

| | | | | | | |
|------|-------|--------|--|--|--|--|
| 0100 | | | | | | |
| 0200 | | | | | | |
| 0300 | | | | | | |
| 0400 | 13 04 | 118 35 | | | | |
| 0500 | 13 04 | 118 35 | | | | |
| 0600 | 13 04 | 118 35 | | | | |
| 0700 | 12 52 | 118 36 | | | | |
| 0800 | 12 41 | 118 36 | | | | |
| 0900 | 12 30 | 118 36 | | | | |
| 1000 | 12 19 | 118 35 | | | | |
| 1100 | 12 12 | 118 34 | | | | |
| 1200 | 12 12 | 118 34 | | | | |
| 1300 | 12 09 | 118 34 | | | | |
| 1400 | 11 59 | 118 34 | | | | |
| 1500 | 11 48 | 118 34 | | | | |
| 1600 | 11 37 | 118 34 | | | | |
| 1700 | 11 37 | 118 34 | | | | |
| 1800 | 11 37 | 118 34 | | | | |
| 1900 | 11 32 | 118 34 | | | | |
| 2000 | 11 20 | 118 34 | | | | |
| 2100 | 11 09 | 118 34 | | | | |
| 2200 | 10 58 | 118 34 | | | | |
| 2300 | 10 52 | 118 34 | | | | |
| 2400 | 10 52 | 118 34 | | | | |

observation periods

| | miles | hours |
|---------------|-------|-------|
| 0628 - 0745 = | 14 | 1.3 |
| 0753 - 1030 = | 29 | 2.6 |
| 1325 - 1600 = | 28 | 2.6 |
| 1815 - 1918 = | 9 | 1.0 |

Total = 80 7.5

Date 21 Jun 1967 Ship () Cruise No.

Organization Recorder

Sunrise: Time 0654 Position: Lat. 10°11'N, Long. 118°51'W

Sunset: Time 1916 Position: Lat. 09°06'N, Long. 118°45'W

Miles travelled from 0000 hours to sunrise = 44

Miles travelled from sunrise to sunset = 73

Miles travelled from sunset to 2400 hours = 39

TIME OF FIX TYPE OF FIX LATITUDE LONGITUDE

1.

2.

3.

4.

5.

Hourly Positions:

Time Latitude Longitude Wind Dir. Wind Sp. Wave Dir. Wave Hgt.

| | | | | | | |
|------|-------|--------|--|--|--|--|
| 0100 | | | | | | |
| 0200 | | | | | | |
| 0300 | | | | | | |
| 0400 | 10 19 | 118 48 | | | | |
| 0500 | 10 19 | 118 48 | | | | |
| 0600 | 10 17 | 118 49 | | | | |
| 0700 | 10 08 | 118 53 | | | | |
| 0800 | 09 57 | 118 57 | | | | |
| 0900 | 09 47 | 119 04 | | | | |
| 1000 | 09 37 | 119 03 | | | | |
| 1100 | 09 37 | 119 03 | | | | |
| 1200 | 09 37 | 119 00 | | | | |
| 1300 | 09 37 | 119 03 | | | | |
| 1400 | 09 35 | 119 02 | | | | |
| 1500 | 09 30 | 119 01 | | | | |
| 1600 | 09 20 | 118 54 | | | | |
| 1700 | 09 20 | 118 54 | | | | |
| 1800 | 09 19 | 118 53 | | | | |
| 1900 | 09 09 | 118 47 | | | | |
| 2000 | 08 58 | 118 41 | | | | |
| 2100 | 08 46 | 118 35 | | | | |
| 2200 | 08 35 | 118 29 | | | | |
| 2300 | 08 32 | 118 26 | | | | |
| 2400 | 08 32 | 118 26 | | | | |

observation periods

| | | miles | hours |
|------|----------|-------|-------|
| 0634 | - 0730 = | 10 | - 0.9 |
| 0750 | - 1000 = | 24 | - 2.2 |
| 1425 | - 1600 = | 18 | - 1.6 |
| 1730 | - 1916 = | 16 | - 1.8 |
| | | 68 | - 6.5 |

Date 22 June 1967 Ship R.S. JORDAN () Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time 0638 Position: Lat. 07°42'N, Long. 118°24'W

Sunset: Time 1912 Position: Lat. 06°03'N, Long. 118°58'W

Miles travelled from 0000 hours to sunrise = 48

Miles travelled from sunrise to sunset = 107

Miles travelled from sunset to 2400 hours = 29

| | TIME OF FIX | TYPE OF FIX | LATITUDE | LONGITUDE |
|--|-------------|-------------|----------|-----------|
|--|-------------|-------------|----------|-----------|

1.

2.

3.

4.

5.

Hourly Positions:

| Time | Latitude | Longitude | Wind Dir. | Wind Sp. | Wave Dir. | Wave Hgt. |
|------|----------|-----------|-----------|----------|-----------|-----------|
|------|----------|-----------|-----------|----------|-----------|-----------|

| | | | | | | |
|------|---------|----------|--|--|--|--|
| 0100 | | | | | | |
| 0200 | | | | | | |
| 0300 | | | | | | |
| 0400 | 07° 50' | 118 24' | | | | |
| 0500 | 07° 50' | 118 24' | | | | |
| 0600 | 07° 48' | 118 24' | | | | |
| 0700 | 07 38 | 118 26 | | | | |
| 0800 | 07° 27' | 118 28' | | | | |
| 0900 | 07° 16 | 118 31' | | | | |
| 1000 | 07° 05 | 118 34' | | | | |
| 1100 | 07° 02 | 118° 37' | | | | |
| 1200 | 07° 02 | 118° 38' | | | | |
| 1300 | 06° 57 | 118° 39 | | | | |
| 1400 | 06° 46 | 118° 42 | | | | |
| 1500 | 06° 38 | 118° 46 | | | | |
| 1600 | 06° 27 | 118° 50 | | | | |
| 1700 | 06° 20 | 118° 53 | | | | |
| 1800 | 06° 10 | 118° 58 | | | | |
| 1900 | 06° 03 | 118° 58 | | | | |
| 2000 | 06° 02 | 118° 58 | | | | |
| 2100 | 05° 51 | 118 52 | | | | |
| 2200 | 05° 40 | 118 49 | | | | |
| 2300 | 05° 37 | 118° 46 | | | | |
| 2400 | 05° 37 | 118° 46 | | | | |

Observation Period

| | <u>miles</u> | <u>hours</u> |
|-------------|--------------|--------------|
| 0638 - 1031 | 44 | 3.9 |
| 1330 - 1600 | 27 | 2.5 |
| 1700 - 1835 | 18 | 1.7 |
| | <u>89</u> | <u>8.1</u> |

Date 23 June 1967 Ship R.S. Jordan () Cruise No. _____

Organization _____ Recorder _____

Sunrise: Time 0643 Position: Lat. 04°56'N Long. 118°30'W

Sunset: Time 1910 Position: Lat. 03°40'N Long. 118°30'W

Miles travelled from 0000 hours to sunrise = 44

Miles travelled from sunrise to sunset = 75

Miles travelled from sunset to 2400 hours = 34

TIME OF FIX TYPE OF FIX LATITUDE LONGITUDE

1.

2.

3.

4.

5.

Hourly Positions:

Time Latitude Longitude Wind Dir. Wind Sp. Wave Dir. Wave Hgt.

| | | | | | | |
|------|---------|----------|--|--|--|--|
| 0100 | 05° 32' | 118° 44' | | | | |
| 0200 | | | | | | |
| 0300 | | | | | | |
| 0400 | 05° 04' | 118° 30' | | | | |
| 0500 | 05° 04' | 118° 30' | | | | |
| 0600 | 05° 04' | 118° 30' | | | | |
| 0700 | 04° 53' | 118° 30' | | | | |
| 0800 | 04° 42' | 118° 29' | | | | |
| 0900 | 04° 32' | 118° 29' | | | | |
| 1000 | 04° 22' | 118° 28' | | | | |
| 1100 | 04° 19' | 118° 28' | | | | |
| 1200 | 04° 18' | 118° 28' | | | | |
| 1300 | 04° 15' | 118° 28' | | | | |
| 1400 | 04° 04' | 118° 29' | | | | |
| 1500 | 03° 58' | 118° 30' | | | | |
| 1600 | 03° 47' | 118° 30' | | | | |
| 1700 | 03° 47' | 118° 30' | | | | |
| 1800 | 03° 47' | 118° 30' | | | | |
| 1900 | 03° 42' | 118° 30' | | | | |
| 2000 | 03° 31' | 118° 30' | | | | |
| 2100 | 03° 24' | 118° 30' | | | | |
| 2200 | 03° 13' | 118° 31' | | | | |
| 2300 | 03° 06' | 118° 31' | | | | |
| 2400 | 03° 06' | 118° 31' | | | | |

observation Periods

| | mile - hour | |
|---------------|-------------|-----------|
| 0643 - 0745 = | 10 | 1.0 |
| 0815 - 1030 = | 24 | 2.3 |
| 1305 - 1405 = | 10 | 1.0 |
| 1430 - 1600 = | 15 | 1.5 |
| 1755 - 1910 = | 7 | 1.3 |
| | <hr/> 66 | <hr/> 7.1 |

Date 24 June 1967 Ship () Cruise No.

Organization Recorder

Sunrise: Time 0648 Position: Lat. 02° 27' N, Long. 118° 34' W

Sunset: Time 1902 Position: Lat. 01° 12' N, Long. 118° 33' W

Miles travelled from 0000 hours to sunrise = 39

Miles travelled from sunrise to sunset = 76

Miles travelled from sunset to 2400 hours = 34

| | TIME OF FIX | TYPE OF FIX | LATITUDE | LONGITUDE |
|--|-------------|-------------|----------|-----------|
|--|-------------|-------------|----------|-----------|

1.

2.

3.

4.

5.

Hourly Positions:

| Time | Latitude | Longitude | Wind Dir. | Wind Sp. | Wave Dir. | Wave Hgt. |
|------|----------|-----------|-----------|----------|-----------|-----------|
|------|----------|-----------|-----------|----------|-----------|-----------|

| | | | | | | |
|------|---------|----------|--|--|--|--|
| 0100 | | | | | | |
| 0200 | | | | | | |
| 0300 | | | | | | |
| 0400 | 02° 36' | 118 33 | | | | |
| 0500 | 02° 36' | 118 33 | | | | |
| 0600 | 02 33 | 118 33 | | | | |
| 0700 | 02 22 | 118 33 | | | | |
| 0800 | 02° 11' | 118 34 | | | | |
| 0900 | 02° 05' | 118 34 | | | | |
| 1000 | 01° 56' | 118 34 | | | | |
| 1100 | 01° 53' | 118 34 | | | | |
| 1200 | 01° 53' | 118° 34' | | | | |
| 1300 | 01° 50' | 118° 34' | | | | |
| 1400 | 01° 39' | 118° 34' | | | | |
| 1500 | 01° 35' | 118° 34' | | | | |
| 1600 | 01° 24' | 118° 34' | | | | |
| 1700 | 01° 24' | 118° 34' | | | | |
| 1800 | 01° 22' | 118° 34' | | | | |
| 1900 | 01° 12' | 118° 33' | | | | |
| 2000 | 01° 01' | 118° 32' | | | | |
| 2100 | 00° 50' | 118° 31' | | | | |
| 2200 | 00° 41' | 118° 30' | | | | |
| 2300 | 00° 39' | 118° 29' | | | | |
| 2400 | 00° 39' | 118° 29' | | | | |

Observation Time

miles - hrs

| | | | |
|---------------|----|---|------|
| 0648 - 0730 = | 10 | - | 0:42 |
| 0745 - 0800 = | 04 | - | 0:15 |
| 0830 - 1030 = | 18 | - | 2:00 |
| 1245 - 1410 = | 10 | - | 1:25 |
| 1430 - 1600 = | 15 | - | 1:30 |
| 1742 - 1902 = | 13 | - | 1:20 |

70 mi - 7:2 hrs.

Date 25 June 1967 Ship () Cruise No.

Organization Recorder

Sunrise: Time 0653 Position: Lat. 00° 01' S, Long. 118° 26' W

Sunset: Time 1856 Position: Lat. 01° 07' S, Long. 118° 20' W

Miles travelled from 0000 hours to sunrise = 40

Miles travelled from sunrise to sunset = 64

Miles travelled from sunset to 2400 hours = 33

| | TIME OF FIX | TYPE OF FIX | LATITUDE | LONGITUDE |
|--|-------------|-------------|----------|-----------|
|--|-------------|-------------|----------|-----------|

1.

2.

3.

4.

5.

Hourly Positions:

| Time | Latitude | Longitude | Wind Dir. | Wind Sp. | Wave Dir. | Wave Hgt. |
|------|----------|-----------|-----------|----------|-----------|-----------|
|------|----------|-----------|-----------|----------|-----------|-----------|

| | | | | | | |
|------|-----------|----------|--|--|--|--|
| | | W | | | | |
| 0100 | | | | | | |
| 0200 | | | | | | |
| 0300 | | | | | | |
| 0400 | 00° 09' N | 118° 27' | | | | |
| 0500 | 00° 09' N | 118° 27' | | | | |
| 0600 | 00° 09' N | 118° 27' | | | | |
| 0700 | 00° 01' S | 118° 26' | | | | |
| 0800 | 00° 12' S | 118° 26' | | | | |
| 0900 | 00° 16' | 118° 25' | | | | |
| 1000 | 00° 26' | 118° 24' | | | | |
| 1100 | 00° 29' S | 118° 22' | | | | |
| 1200 | 00° 29' S | 118° 22' | | | | |
| 1300 | 00° 30' S | 118° 22' | | | | |
| 1400 | 00° 37' S | 118° 22' | | | | |
| 1500 | 00° 42' S | 118° 21' | | | | |
| 1600 | 00° 53' S | 118° 21' | | | | |
| 1700 | 00° 53' S | 118° 21' | | | | |
| 1800 | 00° 57' S | 118° 20' | | | | |
| 1900 | 01° 07' S | 118° 20' | | | | |
| 2000 | 01° 17' S | 118° 20' | | | | |
| 2100 | 01° 22' S | 118° 22' | | | | |
| 2200 | 01° 33' S | 118° 24' | | | | |
| 2300 | 01° 40' S | 118° 25' | | | | |
| 2400 | 01° 40' S | 118° 25' | | | | |

| | <u>miles</u> | <u>hrs</u> |
|---------------|--------------|------------|
| 0653 - 0748 = | 07 | 0:55 |
| 0831 - 1030 = | 18 | 1:59 |
| 1230 - 1400 = | 09 | 1:30 |
| 1500 - 1600 = | 10 | 1:00 |
| 1735 - 1856 = | 13 | 1:21 |
| | <hr/> | <hr/> |
| | 57 mi | 4:16 |
| | | 6.8 hrs. |

Date 26 Jun 1967 Ship () Cruise No.

Organization Recorder

Sunrise: Time 0658 Position: Lat. 02°27'S, Long. 118°35'W

Sunset: Time 1835 Position: Lat. 02°59'S, Long. 117°52'W

Miles travelled from 0000 hours to sunrise = 49

Miles travelled from sunrise to sunset = 75

Miles travelled from sunset to 2400 hours = 43

| | TIME OF FIX | TYPE OF FIX | LATITUDE | LONGITUDE |
|--|-------------|-------------|----------|-----------|
|--|-------------|-------------|----------|-----------|

1.

2.

3.

4.

5.

Hourly Positions:

| Time | Latitude | Longitude | Wind Dir. | Wind Sp. | Wave Dir. | Wave Hgt. |
|------|----------|-----------|-----------|----------|-----------|-----------|
|------|----------|-----------|-----------|----------|-----------|-----------|

| | | | | | | |
|------|---------|----------|--|--|--|--|
| 0100 | | | | | | |
| 0200 | | | | | | |
| 0300 | | | | | | |
| 0400 | 02°15'S | 118°32'W | | | | |
| 0500 | 02°15'S | 118°32'W | | | | |
| 0600 | 02°17'S | 118°33'W | | | | |
| 0700 | 02°27'S | 118°35'W | | | | |
| 0800 | 02°38'S | 118°37'W | | | | |
| 0900 | 02°43'S | 118°38'W | | | | |
| 1000 | 02°54'S | 118°39'W | | | | |
| 1100 | 02°59'S | 118°40'W | | | | |
| 1200 | 02°59'S | 118°40'W | | | | |
| 1300 | 02°59'S | 118°36'W | | | | |
| 1400 | 02°59'S | 118°28'W | | | | |
| 1500 | 02°59'S | 118°20'W | | | | |
| 1600 | 02°59'S | 118°12'W | | | | |
| 1700 | 02°59'S | 118°04'W | | | | |
| 1800 | 02°59'S | 117°56'W | | | | |
| 1900 | 02°59'S | 117°48'W | | | | |
| 2000 | | | | | | |
| 2100 | | | | | | |
| 2200 | | | | | | |
| 2300 | | | | | | |
| 2400 | 02°59'S | 117°09'W | | | | |

mi - hr

0658 - 0750 = 07 - 0:52

0823 - 1030 = 22 - 2:07

1330 - 1550 = 19 - 2:20

48 - 4:79

48 miles - 5.3 hrs.

Date 27 June 1967 Ship () Cruise No.

Organization Recorder

Sunrise: Time 0650 Position: Lat. 02°59'S, Long. 116°04'W

Sunset: Time 1843 Position: Lat. 02°59'S, Long. 114°15'W

Miles travelled from 0000 hours to sunrise = 63

Miles travelled from sunrise to sunset = 108

Miles travelled from sunset to 2400 hours = 44

TIME OF FIX TYPE OF FIX LATITUDE LONGITUDE

1.

2.

3.

4.

5.

Hourly Positions:

Time Latitude Longitude Wind Dir. Wind Sp. Wave Dir. Wave Hgt.

| | | | | | | |
|------|---------|----------|--|--|--|--|
| 0100 | | | | | | |
| 0200 | | | | | | |
| 0300 | | | | | | |
| 0400 | | | | | | |
| 0500 | | | | | | |
| 0600 | 02°59'S | 116°11'W | | | | |
| 0700 | 02°59'S | 116°02'W | | | | |
| 0800 | 02°59'S | 115°53'W | | | | |
| 0900 | 02°59'S | 115°44'W | | | | |
| 1000 | 03°00'S | 115°33'W | | | | |
| 1100 | 03°00'S | 115°22'W | | | | |
| 1200 | 03°00'S | 115°11'W | | | | |
| 1300 | 03°00'S | 115°04'W | | | | |
| 1400 | 03°00'S | 114°57'W | | | | |
| 1500 | 03°00'S | 114°50'W | | | | |
| 1600 | 03°00'S | 114°43'W | | | | |
| 1700 | 02°59'S | 114°35'W | | | | |
| 1800 | 02°58'S | 114°23'W | | | | |
| 1900 | 02°58'S | 114°13'W | | | | |
| 2000 | | | | | | |
| 2100 | | | | | | |
| 2200 | | | | | | |
| 2300 | | | | | | |
| 2400 | 02°58'S | 113°31'W | | | | |

mi - hr

0650 - 0740 = 07 - 0:50

0810 - 1110 = 30 - 3:00

1345 - 1610 = 27 - 2:25

1725 - 1843 = 09 - 1:18

73 mi

6 43

7.6 hrs.

Date 28 Jun 1967 Ship () Cruise No.

Organization Recorder

Sunrise: Time 0633 Position: Lat. 02° 56' S, Long. 112° 32' W

Sunset: Time 1830 Position: Lat. 02° 24' S, Long. 111° 42' W

Miles travelled from 0000 hours to sunrise = 56

Miles travelled from sunrise to sunset = 71

Miles travelled from sunset to 2400 hours = 42

| | TIME OF FIX | TYPE OF FIX | LATITUDE | LONGITUDE |
|--|-------------|-------------|----------|-----------|
|--|-------------|-------------|----------|-----------|

1.

2.

3.

4.

5.

Hourly Positions:

| Time | Latitude | Longitude | Wind Dir. | Wind Sp. | Wave Dir. | Wave Hgt. |
|------|----------|-----------|-----------|----------|-----------|-----------|
|------|----------|-----------|-----------|----------|-----------|-----------|

| | | | | | | |
|------|----------------------|------------|--|--|--|--|
| 0100 | | | | | | |
| 0200 | | | | | | |
| 0300 | | | | | | |
| 0400 | 02° 59' S | 112° 52' W | | | | |
| 0500 | 02° 58' S | 112° 49' | | | | |
| 0600 | 02° 57' S | 112° 36' | | | | |
| 0700 | 02° 56' S | 112° 28' | | | | |
| 0800 | 02° 56' S | 112° 20' | | | | |
| 0900 | 02° 55' S | 112° 11' | | | | |
| 1000 | 02° 54' S | 112° 03' | | | | |
| 1100 | 02° 54' S | 111° 56' W | | | | |
| 1200 | 02° 54' S | 111° 56' W | | | | |
| 1300 | 02° 54' S | 111° 56' W | | | | |
| 1400 | 02° 54' S | 111° 56' W | | | | |
| 1500 | 02° 43' S | 111° 50' W | | | | |
| 1600 | 02° 32' | 111° 45' W | | | | |
| 1700 | 02° 32' | 111° 45' W | | | | |
| 1800 | 02° 29' | 111° 44' W | | | | |
| 1900 | 02° 19' | 111° 40' W | | | | |
| 2000 | | | | | | |
| 2100 | | | | | | |
| 2200 | | | | | | |
| 2300 | 01° 44' S | 111° 30' W | | | | |
| 2400 | 01° 44' S | | | | | |

01° 44' S 111° 30' W

$$0633 - 0746 = 10 - 1:13$$

$$0758 - 1035 = 20 - 2:37$$

$$1430 - 1600 = 18 - 1:30$$

$$1725 - 1830 = 11 - 1:05$$

59

5:85

6:4 hr

Date 29 June 1967 Ship () Cruise No.

Organization Recorder

Sunrise: Time 0627 Position: Lat. 01° 17'S, Long. 111° 32'W

Sunset: Time 1833 Position: Lat. 00° 03'S, Long. 111° 22'W

Miles travelled from 0000 hours to sunrise = 26

Miles travelled from sunrise to sunset = 75

Miles travelled from sunset to 2400 hours = 46

TIME OF FIX TYPE OF FIX LATITUDE LONGITUDE

1.

2.

3.

4.

5.

Hourly Positions:

Time Latitude Longitude Wind Dir. Wind Sp. Wave Dir. Wave Hgt.

| | | | | | | |
|------|----------|-----------|--|--|--|--|
| 0100 | | | | | | |
| 0200 | | | | | | |
| 0300 | | | | | | |
| 0400 | 01° 22'S | 111° 32'W | | | | |
| 0500 | 01° 22'S | 111° 32'W | | | | |
| 0600 | 01° 22'S | 111° 32'W | | | | |
| 0700 | 01° 17'S | 111° 31'W | | | | |
| 0800 | 01° 01'S | 111° 30'W | | | | |
| 0900 | 00° 51'S | 111° 30'W | | | | |
| 1000 | 00° 40'S | 111° 30'W | | | | |
| 1100 | 00° 35'S | 111° 29'W | | | | |
| 1200 | 00° 35'S | 111° 29'W | | | | |
| 1300 | 00° 35'S | 111° 29'W | | | | |
| 1400 | 00° 30'S | 111° 28'W | | | | |
| 1500 | 00° 20'S | 111° 26'W | | | | |
| 1600 | 00° 10'S | 111° 23'W | | | | |
| 1700 | 00° 10'S | 111° 23'W | | | | |
| 1800 | 00° 08'S | 111° 23'W | | | | |
| 1900 | 00° 02'N | 111° 22'W | | | | |
| 2000 | | | | | | |
| 2100 | | | | | | |
| 2200 | | | | | | |
| 2300 | 00° 48'N | 111° 25'W | | | | |
| 2400 | 00° 48'N | 111° 25'W | | | | |

0627 - 0750

0820 - 1030

1420 - 1600

1730 - 1833

12 - 1:23

25 - 2:10

20 - 1:35

08 - 1:03

65¹_{miles} $\frac{5:71}{5:71} = 6.2 \text{ hrs.}$

Date 30 June, 1967 Ship () Cruise No.

Organization Recorder

Sunrise: Time 0626 Position: Lat. 01°22'N, Long. 111°27'W

Sunset: Time 1838 Position: Lat. 02°45'N, Long. 111°42'W

Miles travelled from 0000 hours to sunrise = 39

Miles travelled from sunrise to sunset = 86

Miles travelled from sunset to 2400 hours = 43

| | TIME OF FIX | TYPE OF FIX | LATITUDE | LONGITUDE |
|--|-------------|-------------|----------|-----------|
|--|-------------|-------------|----------|-----------|

1.

2.

3.

4.

5.

Hourly Positions:

| Time | Latitude | Longitude | Wind Dir. | Wind Sp. | Wave Dir. | Wave Hgt. |
|------|----------|-----------|-----------|----------|-----------|-----------|
|------|----------|-----------|-----------|----------|-----------|-----------|

| | | | | | | |
|------|-----------|------------|--|--|--|--|
| 0100 | | | | | | |
| 0200 | | | | | | |
| 0300 | | | | | | |
| 0400 | 01° 16' N | 111° 26' W | | | | |
| 0500 | 01° 16' N | 111° 26' W | | | | |
| 0600 | 01° 16' N | 111° 26' W | | | | |
| 0700 | 01° 27' N | 111° 27' W | | | | |
| 0800 | 01° 39' N | 111° 29' W | | | | |
| 0900 | 01° 50' N | 111° 30' W | | | | |
| 1000 | 01° 57' N | 111° 31' W | | | | |
| 1100 | 02° 06' N | 111° 31' W | | | | |
| 1200 | 02° 06' N | 111° 31' W | | | | |
| 1300 | 02° 06' N | 111° 31' W | | | | |
| 1400 | 02° 12' N | 111° 34' W | | | | |
| 1500 | 02° 27' N | 111° 37' W | | | | |
| 1600 | 02° 37' N | 111° 41' W | | | | |
| 1700 | 02° 37' N | 111° 41' W | | | | |
| 1800 | 02° 39' N | 111° 41' W | | | | |
| 1900 | 02° 51' N | 111° 42' W | | | | |
| 2000 | | | | | | |
| 2100 | | | | | | |
| 2200 | | | | | | |
| 2300 | 03° 29' N | 111° 40' W | | | | |
| 2400 | 03° 29' N | 111° 40' W | | | | |

0626 - 0750 17 - 1:24

0820 - 1028 28 - 2:08

1400 - 1600 27 - 2:00

1715 - 1838 08 - 1:23

90

6:55

80 miles 6.9 hrs

Date 01 July 1967 Ship () Cruise No.

Organization Recorder

Sunrise: Time 0623 Position: Lat. 04° 08' 14 Long. 111° 41' W

Sunset: Time 1842 Position: Lat. 05° 37' N, Long. 111° 39' W

Miles travelled from 0000 hours to sunrise = 39

Miles travelled from sunrise to sunset = 88

Miles travelled from sunset to 2400 hours = 46

TIME OF FIX TYPE OF FIX LATITUDE LONGITUDE

1.

2.

3.

4.

5.

Hourly Positions:

Time Latitude Longitude Wind Dir. Wind Sp. Wave Dir. Wave Hgt.

| | | | | | | |
|------|-----------|------------|--|--|--|--|
| 0100 | | | | | | |
| 0200 | | | | | | |
| 0300 | | | | | | |
| 0400 | 03° 58' N | 111° 40' W | | | | |
| 0500 | 03° 58' N | 111° 40' W | | | | |
| 0600 | 04° 05' N | 111° 41' W | | | | |
| 0700 | 04° 16' N | 111° 41' W | | | | |
| 0800 | 04° 27' N | 111° 41' W | | | | |
| 0900 | 04° 36' N | 111° 41' W | | | | |
| 1000 | 04° 47' N | 111° 41' W | | | | |
| 1100 | 04° 52' N | 111° 41' W | | | | |
| 1200 | 04° 52' N | 111° 41' W | | | | |
| 1300 | 04° 55' N | 111° 40' W | | | | |
| 1400 | 05° 06' N | 111° 39' W | | | | |
| 1500 | 05° 13' N | 111° 39' W | | | | |
| 1600 | 05° 24' N | 111° 39' W | | | | |
| 1700 | 05° 24' N | 111° 39' W | | | | |
| 1800 | 05° 29' N | 111° 39' W | | | | |
| 1900 | 05° 40' N | 111° 39' W | | | | |
| 2000 | 05° 52' N | 111° 37' W | | | | |
| 2100 | 06° 04' N | 111° 35' W | | | | |
| 2200 | 06° 16' N | 111° 33' W | | | | |
| 2300 | 06° 22' N | 111° 32' W | | | | |
| 2400 | 06° 22' N | 111° 32' W | | | | |

| | | | |
|------------------------|-----------|-------|--------------------------------|
| 0623 - 0750 | 16 | - | 1: 27 |
| 0815 - 1030 | 36 | | 2: 15 |
| 1340 - 1414 | 08 | | 0: 34 |
| 1435 - 1600 | 17 | | 1: 25 |
| 1745 - 1815 | 13 | | 0: 57 |
| 1842 | <u>90</u> | miles | |
| | | | 4: $\frac{158}{38}$ = 6.6 hrs. |

Date 02 July 1967 Ship () Cruise No.

Organization Recorder

Sunrise: Time 0614 Position: Lat. 07° 07' N, Long. 111° 24' W

Sunset: Time 1848 Position: Lat. 08° 36' N, Long. 111° 19' W

Miles travelled from 0000 hours to sunrise = 46

Miles travelled from sunrise to sunset = 89

Miles travelled from sunset to 2400 hours = 40

TIME OF FIX TYPE OF FIX LATITUDE LONGITUDE

1.

2.

3.

4.

5.

Hourly Positions:

Time Latitude Longitude Wind Dir. Wind Sp. Wave Dir. Wave Hgt.

| | | | | | | |
|------|-----------|------------|--|--|--|--|
| 0100 | | | | | | |
| 0200 | | | | | | |
| 0300 | | | | | | |
| 0400 | 07° 01' N | 111° 25' W | | | | |
| 0500 | 07° 01' N | 111° 25' W | | | | |
| 0600 | 07° 04' N | 111° 25' W | | | | |
| 0700 | 07° 15' N | 111° 23' W | | | | |
| 0800 | 07° 26' N | 111° 20' W | | | | |
| 0900 | 07° 38' N | 111° 19' W | | | | |
| 1000 | 07° 50' N | 111° 18' W | | | | |
| 1100 | 07° 56' N | 111° 17' W | | | | |
| 1200 | 07° 56' N | 111° 17' W | | | | |
| 1300 | 07° 56' N | 111° 17' W | | | | |
| 1400 | 08° 01' N | 111° 17' W | | | | |
| 1500 | 08° 12' N | 111° 17' W | | | | |
| 1600 | 08° 25' N | 111° 15' W | | | | |
| 1700 | 08° 25' N | 111° 15' W | | | | |
| 1800 | 08° 36' N | 111° 19' W | | | | |
| 1900 | 08° 36' N | 111° 19' W | | | | |
| 2000 | 08° 36' N | 111° 23' W | | | | |
| 2100 | 08° 36' N | 111° 23' W | | | | |
| 2200 | 08° 36' N | 111° 23' W | | | | |
| 2300 | 08° 36' N | 111° 23' W | | | | |
| 2400 | 08° 36' N | 111° 23' W | | | | |

| | | |
|-------------|----------|---------------------------|
| 0614 - 0730 | 14 | - 1: 16 |
| 0745 - 1030 | 33 | 2: 45 |
| 1407 - 1600 | 21 | 1: 53 |
| 1745 - 1848 | 12 | 1: 03 |
| | <hr/> | |
| | 80 miles | <hr/> 5: 117 = 5.7.0 hrs. |

Date 3 July 1967 Ship () Cruise No.

Organization Recorder

Sunrise: Time 0607 Position: Lat. 09°52'N, Long. 111°20'W

Sunset: Time 1853 Position: Lat. 11°30'N, Long. 111°25'W

Miles travelled from 0000 hours to sunrise = 36

Miles travelled from sunrise to sunset = 98

Miles travelled from sunset to 2400 hours = ~~8~~ 41

| | TIME OF FIX | TYPE OF FIX | LATITUDE | LONGITUDE |
|--|-------------|-------------|----------|-----------|
|--|-------------|-------------|----------|-----------|

1.

2.

3.

4.

5.

Hourly Positions:

| Time | Latitude | Longitude | Wind Dir. | Wind Sp. | Wave Dir. | Wave Hgt. |
|------|----------|-----------|-----------|----------|-----------|-----------|
|------|----------|-----------|-----------|----------|-----------|-----------|

| | | | | | | |
|------|-----------|------------|--|--|--|--|
| 0100 | | | | | | |
| 0200 | | | | | | |
| 0300 | | | | | | |
| 0400 | 09° 43' N | 111° 20' W | | | | |
| 0500 | 09° 43' N | 111° 20' W | | | | |
| 0600 | 09° 50' N | 111° 20' W | | | | |
| 0700 | 10° 00' N | 111° 21' W | | | | |
| 0800 | 10° 10' N | 111° 21' W | | | | |
| 0900 | 10° 21' N | 111° 21' W | | | | |
| 1000 | 10° 32' N | 111° 21' W | | | | |
| 1100 | 10° 38' N | 111° 21' W | | | | |
| 1200 | 10° 38' N | 111° 21' W | | | | |
| 1300 | 10° 43' N | 111° 22' W | | | | |
| 1400 | 10° 53' N | 111° 22' W | | | | |
| 1500 | 11° 03' N | 111° 22' W | | | | |
| 1600 | 11° 15' N | 111° 22' W | | | | |
| 1700 | 11° 15' N | 111° 22' W | | | | |
| 1800 | 11° 18' N | 111° 23' W | | | | |
| 1900 | 11° 31' N | 111° 26' W | | | | |
| 2000 | 11° 43' N | 111° 28' W | | | | |
| 2100 | | | | | | |
| 2200 | | | | | | |
| 2300 | 12° 10' N | 111° 30' W | | | | |
| 2400 | 12° 10' N | 111° 30' W | | | | |

| | | |
|-------------|-----------------|-------------------------|
| 0609 - 0730 | 12 | 1:21 |
| 0740 - 1030 | 32 | 2:50 |
| 1440 - 1650 | 14 | 1:20 |
| 1720 - 1853 | 16 | 1:33 |
| | <u>74 miles</u> | <u>5:124 = 7.1 hrs.</u> |

Date 04 July 1967 Ship () Cruise No.

Organization Recorder

Sunrise: Time 0605 Position: Lat. 12°36'N, Long. 111°05'W

Sunset: Time 1852 Position: Lat. 13°38'N, Long. 109°56'W

Miles travelled from 0000 hours to sunrise = 34

Miles travelled from sunrise to sunset = 91

Miles travelled from sunset to 2400 hours = 39

| | TIME OF FIX | TYPE OF FIX | LATITUDE | LONGITUDE |
|--|-------------|-------------|----------|-----------|
|--|-------------|-------------|----------|-----------|

1.

2.

3.

4.

5.

Hourly Positions:

| Time | Latitude | Longitude | Wind Dir. | Wind Sp. | Wave Dir. | Wave Hgt. |
|------|----------|-----------|-----------|----------|-----------|-----------|
|------|----------|-----------|-----------|----------|-----------|-----------|

| | | | | | | |
|------|---------|----------|--|--|--|--|
| 0100 | 12°13'N | 111°29'W | | | | |
| 0200 | | | | | | |
| 0300 | | | | | | |
| 0400 | 12°33'N | 111°07'W | | | | |
| 0500 | 12°33'N | 111°07'W | | | | |
| 0600 | 12°36'N | 111°05'W | | | | |
| 0700 | 12°44'N | 110°58'W | | | | |
| 0800 | 12°52'N | 110°51'W | | | | |
| 0900 | 13°02'N | 110°43'W | | | | |
| 1000 | 13°12'N | 110°35'W | | | | |
| 1100 | 13°15'N | 110°32'W | | | | |
| 1200 | 13°15'N | 110°32'W | | | | |
| 1300 | 13°15'N | 110°32'W | | | | |
| 1400 | 13°19'N | 110°22'W | | | | |
| 1500 | 13°26'N | 110°12'W | | | | |
| 1600 | 13°30'N | 110°05'W | | | | |
| 1700 | 13°30'N | 110°05'W | | | | |
| 1800 | 13°32'N | 110°03'W | | | | |
| 1900 | 13°34'N | 109°55'W | | | | |
| 2000 | | | | | | |
| 2100 | | | | | | |
| 2200 | | | | | | |
| 2300 | 14°06'N | 109°26'W | | | | |
| 2400 | 14°06'N | 109°26'W | | | | |

| | | | |
|---------------|----|---|------|
| 0605 - 0734 = | 15 | - | 1:29 |
| 0745 - 1030 = | 32 | - | 2:45 |
| 1415 - 1600 = | 23 | - | 1:45 |
| 1740 - 1852 = | 14 | - | 1:12 |

44
mils

5:131 = 7.2 hrs.

Date 05 July, 1967 Ship () Cruise No.

Organization Recorder

Sunrise: Time 0549 Position: Lat. 14°18'N, Long. 109°14'W

Sunset: Time 1847 Position: Lat. 15°27'N, Long. 108°07'W

Miles travelled from 0000 hours to sunrise = 17

Miles travelled from sunrise to sunset = 94

Miles travelled from sunset to 2400 hours = 41

| | TIME OF FIX | TYPE OF FIX | LATITUDE | LONGITUDE |
|--|-------------|-------------|----------|-----------|
|--|-------------|-------------|----------|-----------|

1.

2.

3.

4.

5.

Hourly Positions:

| Time | Latitude | Longitude | Wind Dir. | Wind Sp. | Wave Dir. | Wave Hgt. |
|------|----------|-----------|-----------|----------|-----------|-----------|
|------|----------|-----------|-----------|----------|-----------|-----------|

| | | | | | | |
|------|-----------|------------|--|--|--|--|
| 0100 | 14° 06' N | 109° 26' W | | | | |
| 0200 | | | | | | |
| 0300 | | | | | | |
| 0400 | 14° 18' N | 109° 14' W | | | | |
| 0500 | 14° 18' N | 109° 14' W | | | | |
| 0600 | 14° 19' N | 109° 11' W | | | | |
| 0700 | 14° 28' N | 109° 04' W | | | | |
| 0800 | 14° 35' N | 109° 00' W | | | | |
| 0900 | 14° 43 | 108° 51' W | | | | |
| 1000 | 14° 51 | 108° 48' W | | | | |
| 1100 | 14° 55' N | 108° 41' W | | | | |
| 1200 | 14° 55' N | 108° 41' W | | | | |
| 1300 | 14° 58' N | 108° 40' W | | | | |
| 1400 | 15° 06' N | 108° 31' W | | | | |
| 1500 | 15° 12' N | 108° 22' W | | | | |
| 1600 | 15° 19' N | 108° 15' W | | | | |
| 1700 | 15° 19' N | 108° 15' W | | | | |
| 1800 | 15° 22' N | 108° 12' W | | | | |
| 1900 | 15° 30' N | 108° 04' W | | | | |
| 2000 | 15° 37' N | 108° 56' W | | | | |
| 2100 | 15° 44' N | 108° 48' W | | | | |
| 2200 | 15° 51' N | 108° 40' W | | | | |
| 2300 | 15° 54' N | 107° 36' W | | | | |
| 2400 | 15° 54' N | 107° 36' W | | | | |

| | | | |
|-------------|----|---|------|
| 0549 - 0730 | 16 | — | 1:41 |
| 0743 - 1050 | 25 | — | 2:17 |
| 1350 - 1600 | 21 | — | 2:10 |
| 1745 - 1847 | 11 | — | 1:02 |

73 miles

6:70

= 7.2 hrs.

Date 06 July 1967 Ship () Cruise No.

Organization Recorder

Sunrise: Time 0539 Position: Lat. 16°16'N, Long. 107°11'W

Sunset: Time 1843 Position: Lat. 17°14'N, Long. 106°15'W

Miles travelled from 0000 hours to sunrise = 33

Miles travelled from sunrise to sunset = 78

Miles travelled from sunset to 2400 hours = 44

TIME OF FIX TYPE OF FIX LATITUDE LONGITUDE

1.

2.

3.

4.

5.

Hourly Positions:

Time Latitude Longitude Wind Dir. Wind Sp. Wave Dir. Wave Hgt.

| | | | | | | |
|------|---------|----------|--|--|--|--|
| 0100 | | | | | | |
| 0200 | | | | | | |
| 0300 | | | | | | |
| 0400 | 16°16'N | 107°11'W | | | | |
| 0500 | 16°16'N | 107°11'W | | | | |
| 0600 | 16°18'N | 107°09'W | | | | |
| 0700 | 16°25'N | 107°01'W | | | | |
| 0800 | 16°32'N | 106°53'W | | | | |
| 0900 | 16°38'N | 106°46'W | | | | |
| 1000 | 16°45'N | 106°37'W | | | | |
| 1100 | 16°49'N | 106°33'W | | | | |
| 1200 | 16°49'N | 106°33'W | | | | |
| 1300 | 16°49'N | 106°33'W | | | | |
| 1400 | 16°50'N | 106°32'W | | | | |
| 1500 | 16°54'N | 106°30'W | | | | |
| 1600 | 17°03'N | 106°23'W | | | | |
| 1700 | 17°03'N | 106°23'W | | | | |
| 1800 | 17°06'N | 106°22'W | | | | |
| 1900 | 17°17'N | 106°12'W | | | | |
| 2000 | 17°26'N | 106°03'W | | | | |
| 2100 | 17°34'N | 105°55'W | | | | |
| 2200 | 17°42'N | 105°48'W | | | | |
| 2300 | 17°46'N | 105°45'W | | | | |
| 2400 | 17°46'N | 105°45'W | | | | |

0539-0730 18 - 1:51

0750-1030 27 - 2:40

1445-1604 15 - 1:19

1747-1843 14 - 0:56

74 miles

4:166 = 6.8 hrs

Date 07 July 1967 Ship () Cruise No.

Organization Recorder

Sunrise: Time 0528 Position: Lat. 18°00'N, Long. 105°30'W

Sunset: Time Position: Lat. 19°02'N, Long. 104°21'W

Miles travelled from 0000 hours to sunrise = 20

Miles travelled from sunrise to ^{Mazatlan lighthouse} ~~sunset~~ = 90

Miles travelled from sunset to 2400 hours =

TIME OF FIX TYPE OF FIX LATITUDE LONGITUDE

- 1.
- 2.
- 3.
- 4.
5. Mazatlan light = 19°02'N x 104°21'W

1.3
11.2
2.6
1.3
1.3
4

Hourly Positions:

Time Latitude Longitude Wind Dir. Wind Sp. Wave Dir. Wave Hgt.

11.2 knots

| | | | | | | |
|------|---------------------|----------|--|--|--|--|
| 0100 | 17°46'N | 105°45'W | | | | |
| 0200 | 17°47'N | 105°44'W | | | | |
| 0300 | | | | | | |
| 0400 | 18°00'N | 105°30'W | | | | |
| 0500 | 18°00'N | 105°30'W | | | | |
| 0600 | 18°05'N | 105°25'W | | | | |
| 0700 | 18°13'N | 105°17'W | | | | |
| 0800 | 18°20'N | 105°09'W | | | | |
| 0900 | 18°27'N | 105°01'W | | | | |
| 1000 | 18°35'N | 104°52'W | | | | |
| 1100 | 18°38'N | 104°48'W | | | | |
| 1200 | 18°38'N | 104°48'W | | | | |
| 1300 | 18°45'N | 104°42'W | | | | |
| 1400 | 18°51'N | 104°35'W | | | | |
| 1500 | 56 | 28 | | | | |
| 1600 | 19 01 | 21 | | | | |
| 1700 | | | | | | |
| 1800 | | | | | | |
| 1900 | | | | | | |
| 2000 | MAZATLAN lighthouse | | | | | |
| 2100 | | | | | | |
| 2200 | | | | | | |
| 2300 | | | | | | |
| 2400 | | | | | | |

0540 - 0730 = 21 — 1:50

0750 - 1030 = 28 — 2:40

~~0800~~

49 mi

3:90 = 4.5 hrs.

Date 10 July 1967 Ship () Cruise No.

Organization Recorder

Sunrise: Time 0522 Position: Lat. , Long.

Sunset: Time Position: Lat. , Long.

Miles travelled from 0000 hours to sunrise =

Miles travelled from sunrise to sunset =

Miles travelled from sunset to 2400 hours =

TIME OF FIX TYPE OF FIX LATITUDE LONGITUDE

1.

2.

3.

4.

5.

Hourly Positions:

Time Latitude Longitude Wind Dir. Wind Sp. Wave Dir. Wave Hgt.

| | | | | | | |
|------|-----------|------------|--|--|--|--|
| 0100 | | | | | | |
| 0200 | | | | | | |
| 0300 | | | | | | |
| 0400 | | | | | | |
| 0500 | 17 51 | 102 41 | | | | |
| 0600 | 46 | 31 | | | | |
| 0700 | 42 | 21 | | | | |
| 0800 | 37 | 11 | | | | |
| 0900 | 33 | 01 | | | | |
| 1000 | 28 | 01 51 | | | | |
| 1100 | 24 | 01 41 | | | | |
| 1200 | 17° 19' N | 101° 30' W | | | | |
| 1300 | 15 | 21 | | | | |
| 1400 | 11 | 11 | | | | |
| 1500 | 08 | 01 | | | | |
| 1600 | 01 | 51 | | | | |
| 1700 | 56 | 41 | | | | |
| 1800 | 51 | 31 | | | | |
| 1900 | 46 | 21 | | | | |
| 2000 | 16° 41' N | 100° 11' W | | | | |
| 2100 | | | | | | |
| 2200 | | | | | | |
| 2300 | 16° 15' N | 100° 21' W | | | | |
| 2400 | 16° 15' N | 100° 21' W | | | | |

10.7
Knots

0635 - 0746 =

1:11

0758 - 0905 =

1:07

1350 - 1456 =

1:06

1710 - 1730 =

0:20

3:44 = ~~3:44~~ 3.7 hrs.

01.1
10.7
—
7.7
11.0
—
12.1

10.7
01.2
—
2.14
10.7
—
12.84

10.7
8.3
—
3.21

Date 11 July 1967 Ship () Cruise No.

Organization Recorder

Sunrise: Time 0519 Position: Lat. 15°52'N, Long. 100°47'W

Sunset: Time 1822 Position: Lat. 14°46'N, Long. 101°49'W

Miles travelled from 0000 hours to sunrise = 33

Miles travelled from sunrise to sunset = 90

Miles travelled from sunset to 2400 hours = 43

TIME OF FIX TYPE OF FIX LATITUDE LONGITUDE

1.

2.

3.

4.

5.

Hourly Positions:

Time Latitude Longitude Wind Dir. Wind Sp. Wave Dir. Wave Hgt.

| | | | | | | |
|------|---------|----------|--|--|--|--|
| 0100 | | | | | | |
| 0200 | | | | | | |
| 0300 | | | | | | |
| 0400 | 15°52'N | 100°47'W | | | | |
| 0500 | 15°52'N | 100°47'W | | | | |
| 0600 | 15°49'N | 100°50'W | | | | |
| 0700 | 15°42'N | 100°57'W | | | | |
| 0800 | 15°35'N | 101°05'W | | | | |
| 0900 | 15°27'N | 101°13'W | | | | |
| 1000 | 15°20'N | 101°20'W | | | | |
| 1100 | 15°17'N | 101°24'W | | | | |
| 1200 | 15°16'N | 101°25'W | | | | |
| 1300 | 15°10'N | 101°30'W | | | | |
| 1400 | 15°04'N | 101°35'W | | | | |
| 1500 | 14°55'N | 101°41'W | | | | |
| 1600 | 14°50'N | 101°46'W | | | | |
| 1700 | 14°50'N | 101°46'W | | | | |
| 1800 | 14°47'N | 101°47'W | | | | |
| 1900 | 14°41'N | 101°53'W | | | | |
| 2000 | 14°33'N | 102°00'W | | | | |
| 2100 | 14°25'N | 102°07'W | | | | |
| 2200 | 14°17'N | 102°14'W | | | | |
| 2300 | 14°13'N | 102°18'W | | | | |
| 2400 | 14°13'N | 102°19'W | | | | |

| | | | |
|-------------|----|---|------|
| 0519 - 0701 | 15 | - | 1:42 |
| 0720 - 0745 | 02 | - | 0:25 |
| 0815 - 1030 | 23 | - | 2:15 |
| 1400 - 1600 | 18 | - | 2:00 |
| 1727 - 1822 | 05 | - | 0:55 |

| | | |
|-------|---|--------|
| 63 mi | - | 5' 137 |
|-------|---|--------|

7.3 hrs.

Date 12 July 1967 Ship () Cruise No.

Organization Recorder

Sunrise: Time 0529 Position: Lat. 13°45'N, Long. 102°41'W

Sunset: Time 1825 Position: Lat. 12°32'N, Long. 103°55'W

Miles travelled from 0000 hours to sunrise = 36

Miles travelled from sunrise to sunset = 102

Miles travelled from sunset to 2400 hours = 41

TIME OF FIX TYPE OF FIX LATITUDE LONGITUDE

1.

2.

3.

4.

5.

Hourly Positions:

Time Latitude Longitude Wind Dir. Wind Sp. Wave Dir. Wave Hgt.

| | | | | | | |
|------|-----------|------------|--|--|--|--|
| 0100 | | | | | | |
| 0200 | | | | | | |
| 0300 | | | | | | |
| 0400 | 13° 45' N | 102° 41' W | | | | |
| 0500 | 13° 45' N | 102° 41' W | | | | |
| 0600 | 13° 42' N | 102° 44' W | | | | |
| 0700 | 13° 35' N | 102° 51' W | | | | |
| 0800 | 13° 28' N | 102° 59' W | | | | |
| 0900 | 13° 20' N | 103° 06' W | | | | |
| 1000 | 13° 19' N | 103° 13' W | | | | |
| 1100 | 13° 08' N | 103° 17' W | | | | |
| 1200 | 13° 07' N | 103° 18' W | | | | |
| 1300 | 13° 01' N | 103° 25' W | | | | |
| 1400 | 12° 55' N | 103° 32' W | | | | |
| 1500 | 12° 47' N | 103° 40' W | | | | |
| 1600 | 12° 38' N | 103° 47' W | | | | |
| 1700 | 12° 38' N | 103° 47' W | | | | |
| 1800 | 12° 35' N | 103° 51' W | | | | |
| 1900 | 12° 28' N | 103° 59' W | | | | |
| 2000 | 12° 20' N | 104° 06' W | | | | |
| 2100 | 12° 13' N | 104° 13' W | | | | |
| 2200 | 12° 05' N | 104° 20' W | | | | |
| 2300 | 12° 03' N | 104° 23' W | | | | |
| 2400 | 12° 01' N | 104° 24' W | | | | |

0605 - 0735 = 14 - 1:30

0759 - 1030 = 26 - 2:31

1345 - 1601 = 25 - 2:16

1717 - 1825 = 09 - 1:08

74 mi 6:45 = 7.4 hrs.

~~7.4~~

Date 13 July, 1967 Ship () Cruise No.

Organization Recorder

Sunrise: Time 0540 Position: Lat. 11°23'N, Long. 104°34'W

Sunset: Time 1823 Position: Lat. 09°44'N, Long. 104°59'W

Miles travelled from 0000 hours to sunrise = 41

Miles travelled from sunrise to sunset = 98

Miles travelled from sunset to 2400 hours = 44

TIME OF FIX TYPE OF FIX LATITUDE LONGITUDE

1.

2.

3.

4.

5.

Hourly Positions:

Time Latitude Longitude Wind Dir. Wind Sp. Wave Dir. Wave Hgt.

| | | | | | | |
|------|---------|----------|--|--|--|--|
| 0100 | | | | | | |
| 0200 | | | | | | |
| 0300 | | | | | | |
| 0400 | 11°23'N | 104°34'W | | | | |
| 0500 | 11°23'N | 104°34'W | | | | |
| 0600 | 11°23'N | 104°34'W | | | | |
| 0700 | 11°18'N | 104°34'W | | | | |
| 0800 | 11°06'N | 104°34'W | | | | |
| 0900 | 10°56'N | 104°34'W | | | | |
| 1000 | 10°46'N | 104°34'W | | | | |
| 1100 | 10°37'N | 104°34'W | | | | |
| 1200 | 10°35'N | 104°34'W | | | | |
| 1300 | 10°29'N | 104°34'W | | | | |
| 1400 | 10°19'N | 104°36'W | | | | |
| 1500 | 10°06'N | 104°38'W | | | | |
| 1600 | 09°54'N | 104°39'W | | | | |
| 1700 | 09°54'N | 104°39'W | | | | |
| 1800 | 09°50'N | 104°39'W | | | | |
| 1900 | 09°38'N | 104°38'W | | | | |
| 2000 | 09°23'N | 104°38'W | | | | |
| 2100 | 09°16'N | 104°38'W | | | | |
| 2200 | 09°04'N | 104°38'W | | | | |
| 2300 | 08°50'N | 104°38'W | | | | |
| 2400 | 08°40'N | 104°38'W | | | | |

0615 - 0845 23 - 2:30

0913 - 1030 17 - 1:17

1340 - 1601 32 - 2:21

1703 - 1823 09 - 1:20

81 = 6.89 = 7.5 hrs.
miles

Date 14 July 1967 Ship () Cruise No.

Organization Recorder

Sunrise: Time 0547 Position: Lat. 08°21'N, Long. 104°38'W

Sunset: Time 1817 Position: Lat. 06°51'N, Long. 104°29'W

Miles travelled from 0000 hours to sunrise = 38

Miles travelled from sunrise to sunset = 91

Miles travelled from sunset to 2400 hours = 45

| | TIME OF FIX | TYPE OF FIX | LATITUDE | LONGITUDE |
|--|-------------|-------------|----------|-----------|
|--|-------------|-------------|----------|-----------|

1.

2.

3.

4.

5.

Hourly Positions:

| Time | Latitude | Longitude | Wind Dir. | Wind Sp. | Wave Dir. | Wave Hgt. |
|------|----------|-----------|-----------|----------|-----------|-----------|
|------|----------|-----------|-----------|----------|-----------|-----------|

| | | | | | | |
|------|---------|----------|--|--|--|--|
| 0100 | | | | | | |
| 0200 | | | | | | |
| 0300 | | | | | | |
| 0400 | 08°21'N | 104°38'W | | | | |
| 0500 | 08°21'N | 104°38'W | | | | |
| 0600 | 08°21'N | 104°38'W | | | | |
| 0700 | 08°16'N | 104°37'W | | | | |
| 0800 | 08°00'N | 104°36'W | | | | |
| 0900 | 07°40'N | 104°36'W | | | | |
| 1000 | 07°38'N | 104°35'W | | | | |
| 1100 | 07°34'N | 104°35'W | | | | |
| 1200 | 07°34'N | 104°35'W | | | | |
| 1300 | 07°28'N | 104°35'W | | | | |
| 1400 | 07°17'N | 104°33'W | | | | |
| 1500 | 07°08'N | 104°31'W | | | | |
| 1600 | 06°58'N | 104°30'W | | | | |
| 1700 | 06°58'N | 104°30'W | | | | |
| 1800 | 06°54'N | 104°29'W | | | | |
| 1900 | 06°43'N | 104°28'W | | | | |
| 2000 | 06°32'N | 104°29'W | | | | |
| 2100 | 06°21'N | 104°29'W | | | | |
| 2200 | 06°10'N | 104°29'W | | | | |
| 2300 | 06°05'N | 104°30'W | | | | |
| 2400 | 06°05'N | 104°30'W | | | | |

| | | | |
|-------------|------|---|------|
| 0610 - 0739 | = 15 | - | 1:29 |
| 0756 - 0930 | = 16 | - | 1:34 |
| 0953 - 1030 | = 05 | - | 0:37 |
| 1248 - 1545 | = 29 | - | 2:57 |
| 1705 - 1817 | = 08 | - | 1:12 |

73 mil

5:169

7:49 = 7.8 hrs.

Date 15 July 1967 Ship () Cruise No.

Organization Recorder

Sunrise: Time 0550 Position: Lat. 05°26'N Long. 104°30'W

Sunset: Time 1816 Position: Lat. 04°08'N Long. 104°28'W

Miles travelled from 0000 hours to sunrise = 40

Miles travelled from sunrise to sunset = 68

Miles travelled from sunset to 2400 hours = 41

TIME OF FIX TYPE OF FIX LATITUDE LONGITUDE

- 1.
- 2.
- 3.
- 4.
- 5.

Hourly Positions:

Time Latitude Longitude Wind Dir. Wind Sp. Wave Dir. Wave Hgt.

| | | | | | | |
|------|---------|----------|--|--|--|--|
| 0100 | | | | | | |
| 0200 | | | | | | |
| 0300 | | | | | | |
| 0400 | 05°26'N | 104°30'W | | | | |
| 0500 | 05°26'N | 104°30'W | | | | |
| 0600 | 05°26'N | 104°30'W | | | | |
| 0700 | 05°22'N | 104°30'W | | | | |
| 0800 | 05°12'N | 104°30'W | | | | |
| 0900 | 05°01'N | 104°30'W | | | | |
| 1000 | 04°51'N | 104°29'W | | | | |
| 1100 | 04°48'N | 104°29'W | | | | |
| 1200 | 04°48'N | 104°29'W | | | | |
| 1300 | 04°43'N | 104°29'W | | | | |
| 1400 | 04°37'N | 104°29'W | | | | |
| 1500 | 04°26'N | 104°28'W | | | | |
| 1600 | 04°16'N | 104°28'W | | | | |
| 1700 | 04°16'N | 104°28'W | | | | |
| 1800 | 04°10'N | 104°28'W | | | | |
| 1900 | 04°00'N | 104°28'W | | | | |
| 2000 | 03°51'N | 104°28'W | | | | |
| 2100 | 03°41'N | 104°28'W | | | | |
| 2200 | 03°32'N | 104°28'W | | | | |
| 2300 | 03°25'N | 104°27'W | | | | |
| 2400 | 03°27'N | 104°27'W | | | | |

| | | |
|-------------|----|------|
| 0615 - 0730 | 10 | 1:15 |
| 0746 - 1000 | 23 | 2:14 |
| 1450 - 1601 | 22 | 2:01 |
| 1715 - 1816 | 07 | 1:01 |

62
miles

6.31 = 6.5 hrs.

Date 16 July 1967 Ship () Cruise No.

Organization Recorder

Sunrise: Time 0556 Position: Lat. 02°54'N, Long. 104°26'W

Sunset: Time 1811 Position: Lat. 01°37'N, Long. 104°40'W

Miles travelled from 0000 hours to sunrise = 34

Miles travelled from sunrise to sunset = 82

Miles travelled from sunset to 2400 hours = 48

| | TIME OF FIX | TYPE OF FIX | LATITUDE | LONGITUDE |
|--|-------------|-------------|----------|-----------|
|--|-------------|-------------|----------|-----------|

1.

2.

3.

4.

5.

Hourly Positions:

| Time | Latitude | Longitude | Wind Dir. | Wind Sp. | Wave Dir. | Wave Hgt. |
|------|----------|-----------|-----------|----------|-----------|-----------|
|------|----------|-----------|-----------|----------|-----------|-----------|

| | | | | | | |
|------|---------|----------|--|--|--|--|
| 0100 | | | | | | |
| 0200 | | | | | | |
| 0300 | | | | | | |
| 0400 | 02°54'N | 104°26'W | | | | |
| 0500 | 02°54'N | 104°26'W | | | | |
| 0600 | 02°54'N | 104°26'W | | | | |
| 0700 | 02°54'N | 104°30'W | | | | |
| 0800 | 02°40'N | 104°33'W | | | | |
| 0900 | 02°30'N | 104°37'W | | | | |
| 1000 | 02°20'N | 104°41'W | | | | |
| 1100 | 02°17'N | 104°43'W | | | | |
| 1200 | 02°17'N | 104°43'W | | | | |
| 1300 | 02°11'N | 104°43'W | | | | |
| 1400 | 02°03'N | 104°42'W | | | | |
| 1500 | 02°54'N | 104°41'W | | | | |
| 1600 | 01°45'N | 104°41'W | | | | |
| 1700 | 01°45'N | 104°41'W | | | | |
| 1800 | 01°39'N | 104°40'W | | | | |
| 1900 | 01°27'N | 104°39'W | | | | |
| 2000 | 01°16'N | 104°39'W | | | | |
| 2100 | 01°08'N | 104°39' | | | | |
| 2200 | 00°58'N | 104°39' | | | | |
| 2300 | 00°53'N | 104°39' | | | | |
| 2400 | 00°52'N | 104°39' | | | | |

| | | |
|-------------|----|------|
| 0556 - 0730 | 11 | 1:34 |
| 0755 - 1030 | 25 | 2:35 |
| 1300 - 1600 | 27 | 3:00 |
| 1710 - 1811 | 08 | 4:01 |

7 1/2 mile 7:70

8.2 hrs.

Date 17 July 1967 Ship () Cruise No.

Organization Recorder

Sunrise: Time 0600 Position: Lat. 00°13'N, Long. 104°39'W

Sunset: Time 1806 Position: Lat. 01°07'S, Long. 104°43'W

Miles travelled from 0000 hours to sunrise = 40

Miles travelled from sunrise to sunset = 80

Miles travelled from sunset to 2400 hours = 45

| | TIME OF FIX | TYPE OF FIX | LATITUDE | LONGITUDE |
|--|-------------|-------------|----------|-----------|
|--|-------------|-------------|----------|-----------|

1.

2.

3.

4.

5.

Hourly Positions:

| Time | Latitude | Longitude | Wind Dir. | Wind Sp. | Wave Dir. | Wave Hgt. |
|------|----------|-----------|-----------|----------|-----------|-----------|
|------|----------|-----------|-----------|----------|-----------|-----------|

| | | | | | | |
|------|---------|----------|--|--|--|--|
| 0100 | | | | | | |
| 0200 | | | | | | |
| 0300 | | | | | | |
| 0400 | 00°13'N | 104°39'W | | | | |
| 0500 | 00°15'N | 104°39'W | | | | |
| 0600 | 00°13'N | 104°39'W | | | | |
| 0700 | 00°02'N | 104°39'W | | | | |
| 0800 | 00°08'S | 104°39'W | | | | |
| 0900 | 00°13'S | 104°39'W | | | | |
| 1000 | 00°28'S | 104°39'W | | | | |
| 1100 | 00°32'S | 104°39'W | | | | |
| 1200 | 00°32'S | 104°39'W | | | | |
| 1300 | 00°33'S | 104°39'W | | | | |
| 1400 | 00°36'S | 104°40'W | | | | |
| 1500 | 00°46'S | 104°41'W | | | | |
| 1600 | 00°56'S | 104°44'W | | | | |
| 1700 | 00°56'S | 104°44'W | | | | |
| 1800 | 01°06'S | 104°43'W | | | | |
| 1900 | 01°15'S | 104°42'W | | | | |
| 2000 | 01°25'S | 104°41'W | | | | |
| 2100 | 01°36'S | 104°40'W | | | | |
| 2200 | 01°47'S | 104°39'W | | | | |
| 2300 | 01°52'S | 104°39'W | | | | |
| 2400 | 01°55'S | 104°39'W | | | | |

0600 - 0730 15

0753 - 1030 26

1340 - 1600 21

1700 - 1806 11

73

mile

1:30

2:37

2:20

1:06

6:93

7.6 hrs.

Date 18 Aug 1967 Ship () Cruise No.

Organization Recorder

Sunrise: Time 0605 Position: Lat. 02°36'S, Long. 104°54'W

Sunset: Time 1758 Position: Lat. 03°16'S, Long. 103°36'W

Miles travelled from 0000 hours to sunrise = 41

Miles travelled from sunrise to sunset = 99

Miles travelled from sunset to 2400 hours = 57

TIME OF FIX TYPE OF FIX LATITUDE LONGITUDE

1.

2.

3.

4.

5.

Hourly Positions:

Time Latitude Longitude Wind Dir. Wind Sp. Wave Dir. Wave Hgt.

| | | | | | | |
|------|---------|----------|--|--|--|--|
| 0100 | | | | | | |
| 0200 | | | | | | |
| 0300 | | | | | | |
| 0400 | 02°31'S | 104°35'W | | | | |
| 0500 | 02°31'S | 104°35'W | | | | |
| 0600 | 02°35'S | 104°34'W | | | | |
| 0700 | 02°46'S | 104°33'W | | | | |
| 0800 | 02°56'S | 104°31'W | | | | |
| 0900 | 03°06'S | 104°30'W | | | | |
| 1000 | 03°15'S | 104°29'W | | | | |
| 1100 | 03°22'S | 104°29'W | | | | |
| 1200 | 03°22'S | 104°29'W | | | | |
| 1300 | 03°21'S | 104°24'W | | | | |
| 1400 | 03°20'S | 104°14'W | | | | |
| 1500 | 03°19'S | 104°05'W | | | | |
| 1600 | 02°18'S | 103°53'W | | | | |
| 1700 | 02°17'S | 103°45'W | | | | |
| 1800 | 02°16'S | 103°36'W | | | | |
| 1900 | 02°15'S | 103°26' | | | | |
| 2000 | 02°13'S | 103°17' | | | | |
| 2100 | 02°12'S | 103°09' | | | | |
| 2200 | 02°11'S | 103°00' | | | | |
| 2300 | 02°10'S | 102°50' | | | | |
| 2400 | 02°09'S | 102°41' | | | | |

0605 - 0730 - 15 - 1:25

0745 - 1030 - 28 - 2:45

1300 - 1530 - 26 - 2:30

69

mile

5:100

6.7 hrs

Date 19 Feb 1967 Ship () Cruise No.

Organization Recorder

Sunrise: Time 0550 Position: Lat. 03°04'S, Long. 101°48'W

Sunset: Time 1745 Position: Lat. 02°48'S, Long. 100°14'W

Miles travelled from 0000 hours to sunrise = 48

Miles travelled from sunrise to sunset = 101

Miles travelled from sunset to 2400 hours = 53

TIME OF FIX TYPE OF FIX LATITUDE LONGITUDE

1.

2.

3.

4.

5.

Hourly Positions:

Time Latitude Longitude Wind Dir. Wind Sp. Wave Dir. Wave Hgt.

| | | | | | | |
|------|---------|----------|--|--|--|--|
| 0100 | | | | | | |
| 0200 | | | | | | |
| 0300 | | | | | | |
| 0400 | | | | | | |
| 0500 | | | | | | |
| 0600 | 03°04'S | 101°52'W | | | | |
| 0700 | 03°03'S | 101°43'W | | | | |
| 0800 | 03°02'S | 101°35'W | | | | |
| 0900 | 03°01'S | 101°26'W | | | | |
| 1000 | 03°01'S | 101°26'W | | | | |
| 1100 | 03°00'S | 101°18'W | | | | |
| 1200 | 03°00'S | 101°09'W | | | | |
| 1300 | 02°59'S | 101°01'W | | | | |
| 1400 | 02°57'S | 100°51'W | | | | |
| 1500 | 02°54'S | 100°41'W | | | | |
| 1600 | 02°51'S | 100°34'W | | | | |
| 1700 | 02°49'S | 100°21'W | | | | |
| 1800 | 02°47'S | 100°12'W | | | | |
| 1900 | | | | | | |
| 2000 | | | | | | |
| 2100 | | | | | | |
| 2200 | | | | | | |
| 2300 | | | | | | |
| 2400 | 02°40'S | 99°20'W | | | | |

0550 - 0730 15 1:40

0800 - 0908 09 1:08

1000 - 1100 09 1:00

1250 - 1603 46 3:13

79

6.61

miles

7.0 hrs.

Date 20 July 1967 Ship () Cruise No.

Organization Recorder

Sunrise: Time 0538 Position: Lat. 02°38'S, Long. 98°31'W

Sunset: Time 1737 Position: Lat. 02°47'S, Long. 97°51'W

Miles travelled from 0000 hours to sunrise = 51

Miles travelled from sunrise to sunset = 56

Miles travelled from sunset to 2400 hours = 45

TIME OF FIX TYPE OF FIX LATITUDE LONGITUDE

1.

2.

3.

4.

5.

Hourly Positions:

Time Latitude Longitude Wind Dir. Wind Sp. Wave Dir. Wave Hgt.

| | | | | | | |
|------|----------|-----------|--|--|--|--|
| 0100 | | | | | | |
| 0200 | | | | | | |
| 0300 | | | | | | |
| 0400 | 02° 30'S | 98° 40' W | | | | |
| 0500 | 02° 36'S | 98° 36' W | | | | |
| 0600 | 02° 39'S | 98° 28' W | | | | |
| 0700 | 02° 42'S | 98° 20' W | | | | |
| 0800 | 02° 44'S | 98° 12' W | | | | |
| 0900 | 02° 48'S | 98° 05' W | | | | |
| 1000 | 02° 52'S | 97° 58' W | | | | |
| 1100 | 02° 56'S | 97° 50' W | | | | |
| 1200 | 02° 56'S | 97° 50' W | | | | |
| 1300 | 02° 56'S | 97° 50' W | | | | |
| 1400 | 02° 56'S | 97° 50' W | | | | |
| 1500 | 02° 56'S | 97° 50' W | | | | |
| 1600 | 02° 56'S | 97° 50' W | | | | |
| 1700 | 02° 51'S | 97° 52' W | | | | |
| 1800 | 02° 43'S | 97° 50' W | | | | |
| 1900 | 02° 34'S | 97° 48' W | | | | |
| 2000 | 02° 25'S | 97° 44' W | | | | |
| 2100 | 02° 16'S | 97° 42' W | | | | |
| 2200 | 02° 07'S | 97° 39' W | | | | |
| 2300 | 02° 00'S | 97° 38' W | | | | |
| 2400 | 02° 03'S | 97° 38' W | | | | |

0615 - 0730

13

1:15

0750 - 0955

17

2:05

1010 - 1100

07

0:50

1650 - 1737

07

0:47

44
miles

3:17

5.0 hrs.

Date 21 July 1967 Ship () Cruise No.

Organization Recorder

Sunrise: Time 0533 Position: Lat. 01°37'S, Long. 97°31'W

Sunset: Time 1840 Position: Lat. 00°02'N, Long. 97°31'W

Miles travelled from 0000 hours to sunrise = 26

Miles travelled from sunrise to sunset = 99

Miles travelled from sunset to 2400 hours = 42

| | TIME OF FIX | TYPE OF FIX | LATITUDE | LONGITUDE |
|--|-------------|-------------|----------|-----------|
|--|-------------|-------------|----------|-----------|

1.

2.

3.

4.

5.

Hourly Positions:

| Time | Latitude | Longitude | Wind Dir. | Wind Sp. | Wave Dir. | Wave Hgt. |
|------|----------|-----------|-----------|----------|-----------|-----------|
|------|----------|-----------|-----------|----------|-----------|-----------|

| | | | | | | |
|------|-----------|-----------|--|--|--|--|
| 0100 | 02° 02' S | 97° 35' W | | | | |
| 0200 | 01° 58' S | 97° 36' W | | | | |
| 0300 | 01° 48' S | 97° 34' W | | | | |
| 0400 | 01° 40' S | 97° 31' W | | | | |
| 0500 | 01° 40' S | 97° 31' W | | | | |
| 0600 | 01° 33' S | 97° 30' W | | | | |
| 0700 | 01° 23' S | 97° 30' W | | | | |
| 0800 | 01° 13' S | 97° 30' W | | | | |
| 0900 | 01° 03' S | 97° 30' W | | | | |
| 1000 | 00° 54' S | 97° 30' W | | | | |
| 1100 | 00° 47' S | 97° 30' W | | | | |
| 1200 | 00° 47' S | 97° 30' W | | | | |
| 1300 | 00° 44' S | 97° 31' W | | | | |
| 1400 | 00° 37' S | 97° 33' W | | | | |
| 1500 | 00° 26' S | 97° 30' W | | | | |
| 1600 | 00° 16' S | 97° 30' W | | | | |
| 1700 | 00° 16' S | 97° 30' W | | | | |
| 1800 | 00° 06' S | 97° 30' W | | | | |
| 1900 | 00° 05' N | 97° 30' W | | | | |
| 2000 | 00° 16' N | 97° 30' W | | | | |
| 2100 | 00° 27' N | 97° 30' W | | | | |
| 2200 | 00° 38' N | 97° 31' W | | | | |
| 2300 | 00° 44' N | 97° 31' W | | | | |
| 2400 | 00° 44' N | 97° 31' W | | | | |

| | | | |
|-------------|----|---|------|
| 0545 - 0730 | 17 | - | 1:45 |
| 0750 - 1031 | 28 | | 2:41 |
| 1440 - 1601 | 14 | | 1:21 |
| 1710 - 1840 | 16 | | 1:30 |

75

miles

5 137 = 7.3 hrs

Date 22 July 1967 Ship () Cruise No.

Organization Recorder

Sunrise: Time 0531 Position: Lat. 01°12'N, Long. 97°32'W

Sunset: Time 1744 Position: Lat. 02°43'N, Long. 97°34'W

Miles travelled from 0000 hours to sunrise = 28

Miles travelled from sunrise to sunset = 91

Miles travelled from sunset to 2400 hours = 53

TIME OF FIX TYPE OF FIX LATITUDE LONGITUDE

1.

2.

3.

4.

5.

Hourly Positions:

Time Latitude Longitude Wind Dir. Wind Sp. Wave Dir. Wave Hgt.

| | | | | | | |
|------|---------|---------|--|--|--|--|
| 0100 | 00°44'N | 97°31'W | | | | |
| 0200 | 00°50'N | 97°31'W | | | | |
| 0300 | 00°58'N | 97°31'W | | | | |
| 0400 | 01°10'N | 97°32'W | | | | |
| 0500 | 01°12'N | 97°32'W | | | | |
| 0600 | 01°16'N | 97°32'W | | | | |
| 0700 | 01°29'N | 97°32'W | | | | |
| 0800 | 01°41'N | 97°32'W | | | | |
| 0900 | 01°53'N | 97°32'W | | | | |
| 1000 | 01°55'N | 97°33'W | | | | |
| 1100 | 02°12'N | 97°33'W | | | | |
| 1200 | 02°12'N | 97°33'W | | | | |
| 1300 | 02°14'N | 97°33'W | | | | |
| 1400 | 02°17'N | 97°33'W | | | | |
| 1500 | 02°28'N | 97°34'W | | | | |
| 1600 | 02°35'N | 97°34'W | | | | |
| 1700 | 02°39'N | 97°34'W | | | | |
| 1800 | 02°46'N | 97°34'W | | | | |
| 1900 | 02°57'N | 97°34'W | | | | |
| 2000 | 03°08'N | 97°35'W | | | | |
| 2100 | 03°19'N | 97°35'W | | | | |
| 2200 | 03°30'N | 97°35'W | | | | |
| 2300 | 03°35'N | 97°35'W | | | | |
| 2400 | 03°35'N | 97°35'W | | | | |

| | | |
|-------------|----------|------------|
| 0545 - 0730 | — 17 — | 1:45 |
| 0750 - 1025 | — 30 — | 2:35 |
| 1300 - 1600 | — 27 — | 3:00 |
| | <hr/> 76 | <hr/> 6:80 |
| | miles | 7.3 hrs |

Date 23 Aug 1967 Ship () Cruise No.

Organization Recorder

Sunrise: Time 0530 Position: Lat. 04° 09' N, Long. 97° 35' W

Sunset: Time 1749 Position: Lat. 05° 36' N, Long. 97° 26' W

Miles travelled from 0000 hours to sunrise = 33

Miles travelled from sunrise to sunset = 88

Miles travelled from sunset to 2400 hours = 51

| | TIME OF FIX | TYPE OF FIX | LATITUDE | LONGITUDE |
|--|-------------|-------------|----------|-----------|
|--|-------------|-------------|----------|-----------|

1.

2.

3.

4.

5.

Hourly Positions:

| Time | Latitude | Longitude | Wind Dir. | Wind Sp. | Wave Dir. | Wave Hgt. |
|------|----------|-----------|-----------|----------|-----------|-----------|
|------|----------|-----------|-----------|----------|-----------|-----------|

| | | | | | | |
|------|-----------|-----------|--|--|--|--|
| 0100 | | | | | | |
| 0200 | | | | | | |
| 0300 | | | | | | |
| 0400 | 04° 07' N | 97° 35' W | | | | |
| 0500 | 04° 07' N | 97° 35' W | | | | |
| 0600 | 04° 16' N | 97° 34' W | | | | |
| 0700 | 04° 26' N | 97° 33' W | | | | |
| 0800 | 04° 37' N | 97° 32' W | | | | |
| 0900 | 04° 46' N | 97° 31' W | | | | |
| 1000 | 04° 55' N | 97° 31' W | | | | |
| 1100 | 05° 04' N | 97° 30' W | | | | |
| 1200 | 05° 04' N | 97° 30' W | | | | |
| 1300 | 05° 04' N | 97° 30' W | | | | |
| 1400 | 05° 09' N | 97° 30' W | | | | |
| 1500 | 05° 20' N | 97° 27' W | | | | |
| 1600 | 05° 30' N | 97° 26' W | | | | |
| 1700 | 05° 30' N | 97° 26' W | | | | |
| 1800 | 05° 39' N | 97° 26' W | | | | |
| 1900 | 05° 50' N | 97° 26' W | | | | |
| 2000 | 06° 00' N | 97° 26' W | | | | |
| 2100 | 06° 10' N | 97° 26' W | | | | |
| 2200 | 06° 21' N | 97° 26' W | | | | |
| 2300 | 06° 26' N | 97° 26' W | | | | |
| 2400 | 06° 26' N | 97° 26' W | | | | |

0550 - 0730 — 18 — 1:40

0750 - 1030 — 29 — 2:40

1310 - 1650 — 26 — 2:50

1710 - 1749 — 06 — 0:39

79

miles

5:16.9

7.8 hrs

Date 24 July 1967 Ship () Cruise No.

Organization Recorder

Sunrise: Time 0522 Position: Lat. 06°54'N, Long. 97°26'W

Sunset: Time 1752 Position: Lat. 08°05'N, Long. 97°24'W

Miles travelled from 0000 hours to sunrise = 28

Miles travelled from sunrise to sunset = 71

Miles travelled from sunset to 2400 hours = 48

TIME OF FIX TYPE OF FIX LATITUDE LONGITUDE

1.

2.

3.

4.

5.

Hourly Positions:

Time Latitude Longitude Wind Dir. Wind Sp. Wave Dir. Wave Hgt.

| | | | | | | |
|------|---------|---------|--|--|--|--|
| 0100 | 06°27'N | 97°26'W | | | | |
| 0200 | | | | | | |
| 0300 | | | | | | |
| 0400 | 06°52'N | 97°26'W | | | | |
| 0500 | 06°52'N | 97°26'W | | | | |
| 0600 | 07°01'N | 97°26'W | | | | |
| 0700 | 07°12'N | 97°26'W | | | | |
| 0800 | 07°23'N | 97°26'W | | | | |
| 0900 | 07°34'N | 97°26'W | | | | |
| 1000 | 07°42'N | 97°26'W | | | | |
| 1100 | 07°45'N | 97°26'W | | | | |
| 1200 | 07°45'N | 97°26'W | | | | |
| 1300 | 07°45'N | 97°26'W | | | | |
| 1400 | 07°45'N | 97°26'W | | | | |
| 1500 | 07°45'N | 97°26'W | | | | |
| 1600 | 07°46'N | 97°26'W | | | | |
| 1700 | 07°46'N | 97°25'W | | | | |
| 1800 | 08°06'N | 97°24'W | | | | |
| 1900 | 08°16'N | 97°24'W | | | | |
| 2000 | 08°26'N | 97°25'W | | | | |
| 2100 | 08°37'N | 97°27'W | | | | |
| 2200 | 08°48'N | 97°28'W | | | | |
| 2300 | 08°52'N | 97°28'W | | | | |
| 2400 | 08°52'N | 97°28'W | | | | |

| | mi | hr. |
|-------------|-------|----------|
| | 20 | 1:45 |
| 0545 - 0730 | 24 | 2:40 |
| 0750 - 1030 | 03 | :20 |
| 1610 - 1630 | 08 | :57 |
| 1655 - 1752 | | |
| | 55 | 3 16 2 |
| | miles | 5.5 hrs. |

Date 25 July 1967 Ship () Cruise No.

Organization Recorder

Sunrise: Time 05²04 Position: Lat. 09°22'N, Long. 97°32'W

Sunset: Time 18³56 Position: Lat. 10°51'N, Long. 97°31'W

Miles travelled from 0000 hours to sunrise = 30

Miles travelled from sunrise to sunset = 100

Miles travelled from sunset to 2400 hours = 39

| | TIME OF FIX | TYPE OF FIX | LATITUDE | LONGITUDE |
|--|-------------|-------------|----------|-----------|
|--|-------------|-------------|----------|-----------|

1.

2.

3.

4.

5.

Hourly Positions:

| Time | Latitude | Longitude | Wind Dir. | Wind Sp. | Wave Dir. | Wave Hgt. |
|------|----------|-----------|-----------|----------|-----------|-----------|
|------|----------|-----------|-----------|----------|-----------|-----------|

| | | | | | | |
|------|---------|---------|--|--|--|--|
| 0100 | | | | | | |
| 0200 | | | | | | |
| 0300 | | | | | | |
| 0400 | 09°22'N | 97°32'W | | | | |
| 0500 | 09°22'N | 97°32'W | | | | |
| 0600 | 09°28'N | 97°32'W | | | | |
| 0700 | 09°38'N | 97°33'W | | | | |
| 0800 | 09°48'N | 97°33'W | | | | |
| 0900 | 09°59'N | 97°33'W | | | | |
| 1000 | 10°10'N | 97°33'W | | | | |
| 1100 | 10°13'N | 97°33'W | | | | |
| 1200 | 10°13'N | 97°33'W | | | | |
| 1300 | 10°16'N | 97°33'W | | | | |
| 1400 | 10°24'N | 97°32'W | | | | |
| 1500 | 10°34'N | 97°32'W | | | | |
| 1600 | 10°44'N | 97°32'W | | | | |
| 1700 | 10°46'N | 97°32'W | | | | |
| 1800 | 10°51'N | 97°31'W | | | | |
| 1900 | 11°02'N | 97°31'W | | | | |
| 2000 | 11°13'N | 97°31'W | | | | |
| 2100 | 11°24'N | 97°31'W | | | | |
| 2200 | 11°35'N | 97°31'W | | | | |
| 2300 | 11°41'N | 97°31'W | | | | |
| 2400 | 11°41'N | 97°31'W | | | | |

0545 - 0750 19
0810 - 1030 24
1400 - 1600 21
1700 - 1956 08

2:05
2:20
2:00
①:56

92
miles

7:81

8.2 hrs.

Date 26 July 1967 Ship () Cruise No.

Organization Recorder

Sunrise: Time 0515 Position: Lat. 12°17'N, Long. 97°32'W

Sunset: Time 1801 Position: Lat. 13°52'N, Long. 97°30'W

Miles travelled from 0000 hours to sunrise = 34

Miles travelled from sunrise to sunset = 96

Miles travelled from sunset to 2400 hours = 48

TIME OF FIX TYPE OF FIX LATITUDE LONGITUDE

- 1.
- 2.
- 3.
- 4.
- 5.

Hourly Positions:

Time Latitude Longitude Wind Dir. Wind Sp. Wave Dir. Wave Hgt.

| | | | | | | |
|------|---------|---------|--|--|--|--|
| 0100 | 11°44'N | 97°31'W | | | | |
| 0200 | | | | | | |
| 0300 | | | | | | |
| 0400 | 12°15'N | 97°32'W | | | | |
| 0500 | 12°15'N | 97°32'W | | | | |
| 0600 | 12°25'N | 97°32'W | | | | |
| 0700 | 12°36'N | 97°31'W | | | | |
| 0800 | 12°47'N | 97°31'W | | | | |
| 0900 | 12°58'N | 97°31'W | | | | |
| 1000 | 13°09'N | 97°31'W | | | | |
| 1100 | 13°14'N | 97°31'W | | | | |
| 1200 | 13°14'N | 97°31'W | | | | |
| 1300 | 13°18'N | 97°26'W | | | | |
| 1400 | 13°28'N | 97°26'W | | | | |
| 1500 | 13°38'N | 97°31'W | | | | |
| 1600 | 13°48'N | 97°30'W | | | | |
| 1700 | 13°48'N | 97°30'W | | | | |
| 1800 | 13°52'N | 97°30'W | | | | |
| 1900 | 14°03'N | 97°30'W | | | | |
| 2000 | 14°14'N | 97°30'W | | | | |
| 2100 | 14°24'N | 97°30'W | | | | |
| 2200 | 14°34'N | 97°30'W | | | | |
| 2300 | 14°38'N | 97°30'W | | | | |
| 2400 | 14°40'N | 97°30'W | | | | |

| | | |
|--------------------------------|----|----------|
| 0530 - 0730 | 24 | 2:00 |
| 0750 - 1015 | 26 | 2:25 |
| 1350 - 1600 | 23 | 2:10 |
| 1710 - 1800 1801 | 05 | 0:51 |
| 78 miles | | 6:86 |
| | | 7.3 hrs. |

[illegible]

15 - 06 - 11 - 25 - 26

[illegible]

Dec 4, 1934

4/0

| | Estimate | Actual | | | | Remarks | Notes | | Time? | |
|-------|----------|--------|--|--|--|---------|-------|--|-------|--|
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Booby & Tropicbird

| | | RTTB | RTTB | WTTB | Office B | B | B | RFB | B Foot B | | Tropic | Boob |
|-----|-------|------|------|------|----------|-----|----|-----|----------|--|--------|------|
| 15 | 24.9c | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 16 | NP | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 17 | NP | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 18 | NP | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 19 | NP | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 20 | NP | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 21 | CC | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 22 | CC | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 23 | CC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 24 | SP | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 25 | SP | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 26 | SP | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 27 | SP | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 28 | SP | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 29 | SP | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 30 | SP | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 31 | CC | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 32 | CC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 33 | CC | 0 | 5 | 1 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 34 | NP | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 35 | NP | 0 | 6 | 0 | 1 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 36 | NP | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 37 | C | 0 | 0 | 0 | 2 | 611 | 0 | 0 | 3? | | 0 | 63 |
| 38 | C | 0 | 0 | 0 | 0 | 33 | 0 | 0 | 0 | | 0 | 28 |
| 39 | NP | 1 | 0 | 0 | 2 | 0 | 13 | 0 | 0 | | 0 | 0 |
| 40 | NP | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 41 | CC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 42 | CC | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 43 | CC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 44 | SP | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 45 | SP | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 46 | SP | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 47 | SP | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 48 | SP | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 49 | SP | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 50 | SP | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 51 | CC | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | | 0 | 0 |
| 52 | CC | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | | 0 | 0 |
| 53 | CC | 1 | 0 | 0 | 5 | 0 | 27 | 0 | 0 | | 0 | 2 |
| 54 | NP | 4 | 1 | 0 | 5 | 0 | 0 | 9 | 0 | | 1 | 1 |
| 55 | C | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 56 | C | 0 | 0 | 0 | 0 | 119 | 0 | 0 | 0 | | 0 | 0 |
| 57 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 58 | C | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 59 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 60 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 61 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 62 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 63 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 64 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 65 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 66 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 67 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 68 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 69 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 70 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 71 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 72 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 73 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 74 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 75 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 76 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 77 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 78 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 79 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 80 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 81 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 82 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 83 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 84 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 85 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 86 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 87 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 88 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 89 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 90 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 91 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 92 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 93 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 94 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 95 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 96 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 97 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 98 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 99 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 100 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 101 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 102 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 103 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 104 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 105 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 106 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 107 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 108 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 109 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 110 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 111 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 112 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 113 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 114 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 115 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 116 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 117 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 118 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 119 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 120 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 121 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 122 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 123 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 124 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 125 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 126 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 127 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 128 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 129 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 130 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 131 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 132 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 133 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 134 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 135 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 136 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 137 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 138 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 139 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 140 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 141 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 142 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 143 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 144 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 145 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 146 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 147 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 148 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 149 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 150 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 151 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 152 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 153 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 154 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 155 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 156 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 157 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 158 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 159 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 160 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 161 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 162 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 163 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 164 | C | 0 | 0 | 0 | | | | | | | | |

B Free



STORM PETRELS

| | Loach | Scooped | Harcourt | Wilson | Leist | Black | White-throat | White-bell | Sooty | unid |
|-------------|-------|---------|----------|--------|-------|-------|--------------|------------|-------|------|
| 15 June 216 | 156 | 13 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 43 |
| 16 June 32 | 15 | 5 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 9 |
| 17 June 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18 June 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 19 June 5 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 June 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21 June 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 22 June 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 23 June 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 June 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 June 2 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 June 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 27 June 4 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| 28 June 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 29 June 22 | 0 | 0 | 14 | 2 | 0 | 0 | 0 | 0 | 0 | 6 |
| 30 June 9 | 0 | 0 | 5 | 0 | 0 | 0 | 1 | 0 | 0 | 3 |
| 01 July 9 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| 02 July 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 03 July 53 | 53 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| 04 July 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 05 July 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 06 July 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 07 July 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 10 July 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 July 12 | 10 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 12 July 9 | 4 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 3 |
| 13 July 27 | 22 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 14 July 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15 July 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 16 July 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 17 July 6 | 3 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18 July 24 | 4 | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 0 | 4 |
| 19 July 16 | 7 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 8 |
| 20 July 23 | 0 | 5 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 11 |
| 21 July 51 | 1 | 3 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 44 |
| 22 July 24 | 4 | 1 | 13 | 0 | 0 | 0 | 2 | 0 | 0 | 44 |
| 23 July 26 | 3 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| 24 July 29 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 4 | 13 |
| 25 July 9 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| 26 July 10 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 4 |
| 27 July 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 29 July 29 | 2 | 0 | 0 | 0 | 0 | 24 | 0 | 0 | 0 | 3 |
| | 323 | 57 | 46 | 4 | 9 | 24 | 33 | 1 | 9 | 236 |

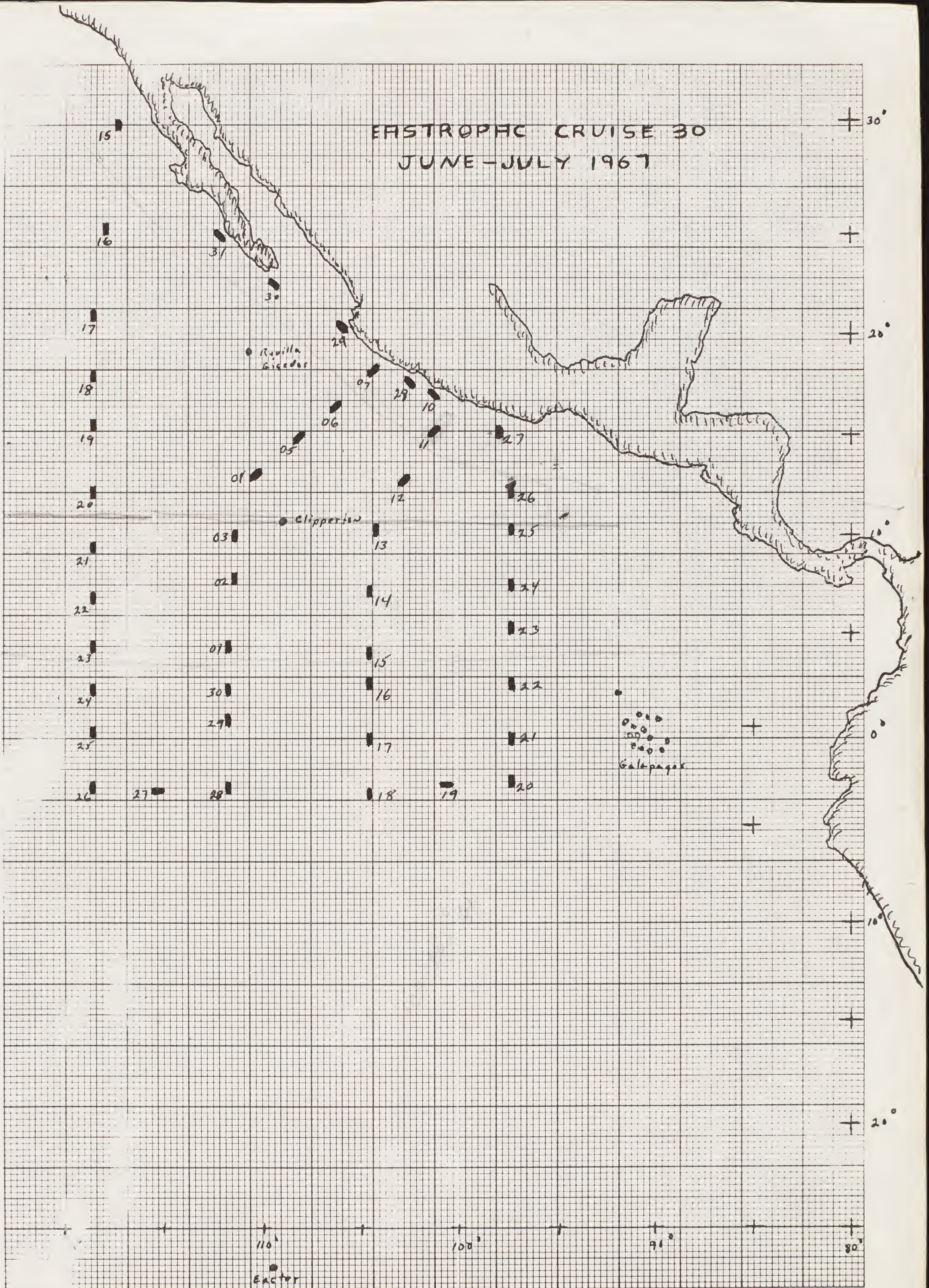
| DATE | Time | Station | Temp. | Salin. | Temp. | Salin. | Temp. | Salin. | Temp. | Sal. | Temp. | Salin. |
|------|------|---------------------------------|----------------|-------------------|-----------------|-----------------|------------------|------------------|------------------|------------------|------------------|------------------|
| | | | 0 ^m | 0 ^m | 10 ^m | 10 ^m | 100 ^m | 100 ^m | 300 ^m | 300 ^m | 500 ^m | 500 ^m |
| 16 | June | 2035 | 001 | 19.40 | 33.96 | 19.40 | 33.95 | | | | | |
| 16 | " | 2334 | 002 | 19.32 | 33.96 | 19.32 | 33.96 | | | | | |
| 17 | " | 0232 | 003 | 19.86 | 34.11 | 19.86 | 34.10 | | | | | |
| 17 | " | 0535 | 004 | 20.12 | 34.31 | 20.12 | 34.32 | | | | | |
| 17 | " | 0832 | 005 | 21.10 | 34.63 | 21.10 | 34.62 | | | | | |
| 17 | " | 1135 | 006 | 21.02 | 34.56 | 21.02 | 34.55 | | | | | |
| 17 | " | 1433 1433 | 007 | 22.3 ⁵ | 34.60 | 22.24 | 34.60 | | | | | |
| 17 | " | 1604 | 008 | 22.90 | 34.50 | 22.84 | 34.50 | | | | | |
| 17 | " | 2233 | 010 | 23.97 | 34.40 | 23.97 | 34.40 | | | | | |
| 18 | " | 0405 | 012 | 24.08 | 34.40 | 24.08 | 34.46 | | | | | |
| 18 | " | 1033 | 014 | 24.65 | 34.36 | 24.65 | 34.38 | | | | | |
| 18 | " | 1608 | 016 | 24.98 | 34.38 | 24.45 | 34.55 | | | | | |
| 18 | " | 2237 | 018 | 24.79 | 34.37 | 24.58 | 34.40 | | | | | |
| 19 | " | 0406 | 020 | 26.00 | 34.15 | 26.00 | 34.15 | | | | | |
| 19 | " | 1038 | 022 | 26.00 | 34.22 | 26.00 | 34.22 | | | | | |
| 19 | " | 1605 | 024 | 26.29 | 34.24 | 26.23 | 34.25 | | | | | |
| 19 | " | 2235 | 026 | 27.04 | 34.17 | 27.02 | 34.17 | | | | | |
| 20 | " | 0405 | 028 | 26.60 | 34.13 | 26.60 | 34.13 | | | | | |
| 20 | " | 1034 | 030 | 27.40 | 33.78 | 27.40 | 33.78 | | | | | |
| 20 | " | 1611 | 032 | 27.40 | 33.79 | 27.35 | 33.78 | | | | | |
| 20 | " | 2232 | 034 | 27.50 | 33.80 | 27.50 | 33.82 | | | | | |
| 21 | " | 0405 | 036 | 27.39 | 33.63 | 27.39 | 33.63 | | | | | |
| 21 | " | | | | | | | | | | | |
| 21 | " | 1607 | 039 | 27.55 | 33.36 | 27.55 | 33.40 | | | | | |
| 21 | " | 2234 | 041 | 27.46 | 33.51 | 27.46 | 33.51 | | | | | |
| 22 | " | 0405 | 043 | 27.59 | 33.68 | 27.59 | 33.68 | | | | | |
| 22 | " | 1034 | 045 | 27.45 | 33.80 | 27.44 | 33.84 | | | | | |
| 22 | " | 1604 | 047 | 27.57 | 33.84 | 27.55 | 34.12 | | | | | |
| 22 | " | 1937 | 048 | 27.45 | 33.94 | 27.54 | 33.95 | | | | | |
| 22 | " | 2234 | 049 | 27.45 | 34.20 | 27.50 | 34.24 | | | | | |
| 23 | " | 0405 | 051 | 27.51 | 34.46 | 27.51 | 34.46 | | | | | |
| 23 | " | 0803 | 052 | 27.47 | 34.50 | 27.47 | 34.50 | | | | | |
| 23 | " | 1036 | 053 | 27.37 | 34.48 | 27.37 | 34.48 | | | | | |
| 23 | " | 1603 | 055 | 27.35 | 34.49 | 27.32 | 34.50 | | | | | |
| 23 | " | 2003 | 056 | 27.22 | 34.43 | 27.22 | 34.43 | | | | | |
| 23 | " | | 054 | 27.37 | 34.59 | 27.37 | 34.59 | | | | | |
| 23 | " | 2335 | 057 | 27.09 | 34.52 | 27.09 | 34.51 | | | | | |

| DATE | time | Station | T _{avg} | Salin | T | S | T | S | T | S | T | S |
|-----------------------|-----------------------|---------|------------------|---------------------------|-----------------|-----------------|-----|-----|-----|-----|-----|-----|
| | | | 0 ^m | 0 ^m | 10 ^m | 10 ^m | 100 | 100 | 300 | 300 | 500 | 500 |
| 24 JUNE | 0219 | 058 | 26.52 | 34.90 | 26.52 | 34.90 | | | | | | |
| 24 " | 0404 | 059 | 26.32 | 34.97 | 26.32 | 34.97 | | | | | | |
| 24 " | 0806 | 060 | 26.13 | 34.90 | 26.13 | 34.91 | | | | | | |
| 24 " | 1035 | 061 | 25.96 | 35.06 | 25.96 | 35.06 | | | | | | |
| 24 " | 1415 | 062 | 26.01 | 35.05 | 26.01 | 35.05 | | | | | | |
| 24 " | 1605 | 063 | 25.93 | 35.07 | 25.88 | 35.07 | | | | | | |
| 24 " | 2002 | 064 | 25.36 | 35.06 | 25.36 | 35.05 | | | | | | |
| 24 " | 2233 | 065 | 25.07 | 35.02 | 25.07 | 35.02 | | | | | | |
| 25 " | 0219 | 066 | 24.90 | 35.06 | 24.90 | 35.06 | | | | | | |
| 25 " | 0407 | 067 | 24.78 | 35.11 | 24.78 | 35.11 | | | | | | |
| 25 " | 0820 | 068 | 24.80 | 35.23 | 24.80 | 35.23 | | | | | | |
| 25 " | 1035 | 069 | 24.85 | 35.26 | 24.85 | 35.26 | | | | | | |
| 25 " | 1429 | 070 | 25.16 | 35.27 | 25.03 | 35.27 | | | | | | |
| 25 " | 1604 | 071 | 25.20 | 35.28 | 25.13 | 35.28 | | | | | | |
| 25 " | 2009 | 072 | 25.42 | 35.32 | 25.42 | 35.32 | | | | | | |
| 25 " | 2235 | 073 | 25.58 | 35.36 | 25.58 | 35.36 | | | | | | |
| 26 " | 0217 | 074 | 25.66 | 35.37 35.37 | 25.66 | 35.37 | | | | | | |
| 26 " | 0405 | 075 | 25.63 | 35.38 | 25.63 | 35.38 | | | | | | |
| 26 " | 0817 | 076 | 25.67 | 35.33 | 25.67 | 35.33 | | | | | | |
| 26 " | 1036 | 077 | 25.69 | 35.35 | 25.69 | 35.35 | | | | | | |
| 268 " | 1037 | 078 | 25.06 | 35.38 | 25.06 | 35.38 | | | | | | |
| 268 " | 1604 | 079 | 25.07 | 35.32 | 25.07 | 35.31 | | | | | | |
| 268 " | 2002 | 081 | 25.00 | 35.28 | 25.00 | 35.28 | | | | | | |
| 268 " | 2234 | 082 | 24.93 | 35.30 | 24.93 | 35.30 | | | | | | |
| 29 " | 0415 | 083 | 24.64 | 35.28 | 24.64 | 35.28 | | | | | | |
| 29 " | 0803 | 084 | 24.35 | 35.26 | 24.35 | 35.26 | | | | | | |
| 29 " | 1159 | 085 | 24.06 | 35.26 | 23.98 | 35.25 | | | | | | |
| 29 " | 1607 | 086 | 23.93 | 35.14 | 23.77 | 35.12 | | | | | | |
| 29 " | 2004 | 087 | 23.86 | 35.04 | 23.86 | 35.04 | | | | | | |
| 29 " | 2234 | 088 | 23.95 | 35.06 | 23.95 | 35.06 | | | | | | |
| 28 30 " | 0405 04 | 090 | 24.18 | 35.06 | 24.18 | 35.06 | | | | | | |
| 28 30 " | 0801 | 091 | 24.28 | 35.06 | 24.28 | 35.06 | | | | | | |
| 28 30 " | 1033 | 092 | 24.47 | 35.05 | 24.45 | 35.05 | | | | | | |
| 28 30 " | 1608 | 094 | 24.60 | 35.05 | 24.60 | 35.05 | | | | | | |
| 28 30 " | 2001 | 095 | 24.73 | 35.14 | 24.73 | 35.14 | | | | | | |
| 28 30 " | 2236 | 096 | 25.47 | 34.98 | 25.47 | 34.99 | | | | | | |

| Date | Time | Station | T | S | T | S | T | S | T | S | T | S |
|---------|------|---------|----------------|----------------|-----------------|-----------------|------------------|------------------|------------------|------------------|-----|-----|
| | | | 0 ^m | 0 ^m | 10 ^m | 10 ^m | 100 ^m | 100 ^m | 300 ^m | 300 ^m | 500 | 500 |
| 01 July | 0404 | 098 | 25.75 | 35.10 | 25.75 | 35.10 | | | | | | |
| 01 " | 0803 | 099 | 25.98 | 35.12 | 25.98 | 35.12 | | | | | | |
| 01 " | 1034 | 100 | 26.71 | 34.79 | 26.71 | 34.80 | | | | | | |
| 01 " | 1422 | 101 | 26.93 | 34.68 | 26.93 | 34.68 | | | | | | |
| 01 " | 1607 | 102 | 27.15 | 34.60 | 27.15 | 34.63 | | | | | | |
| 01 " | 2234 | 104 | 27.32 | 34.09 | 27.32 | 34.10 | | | | | | |
| 02 " | 0404 | 106 | 27.52 | 33.66 | 27.65 | 33.66 | | | | | | |
| 02 " | 1036 | 109 | 27.72 | 33.58 | 27.84 | 33.61 | | | | | | |
| 02 " | 1607 | 110 | 27.96 | 33.42 | 27.89 | 33.50 | | | | | | |
| 02 " | 2233 | 112 | 27.97 | 33.56 | 27.93 | 33.62 | | | | | | |
| 03 " | 0404 | 114 | 28.09 | 33.61 | 28.09 | 33.65 | | | | | | |
| 03 " | 1033 | 116 | 28.33 | 33.82 | 28.37 | 33.84 | | | | | | |
| 03 " | 1602 | 118 | 28.79 | 33.80 | 28.67 | 33.83 | | | | | | |
| 03 " | 2239 | 120 | 28.46 | 33.97 | 28.46 | 33.97 | | | | | | |
| 04 " | 0404 | 122 | 28.48 | 33.85 | 28.51 | 33.85 | | | | | | |
| 04 " | 1034 | 124 | 28.18 | 34.00 | 28.08 | 34.00 | | | | | | |
| 04 " | 1603 | 126 | 28.50 | 34.03 | 28.05 | 34.07 | | | | | | |

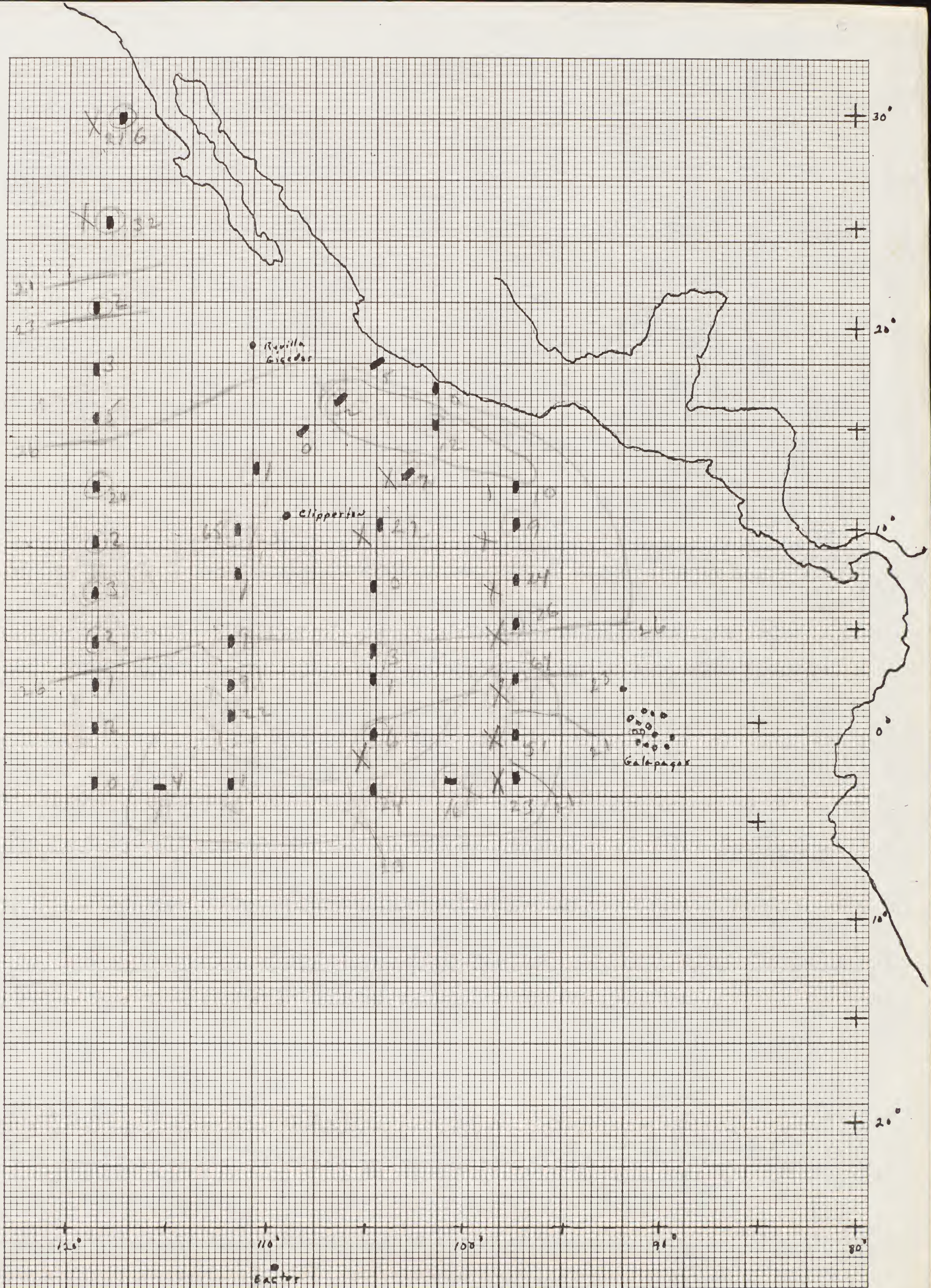
22-

ERSTROPHIC CRUISE 30 JUNE-JULY 1967



BEE 20x20 TO INCH

BEE 20x20 TO INCH

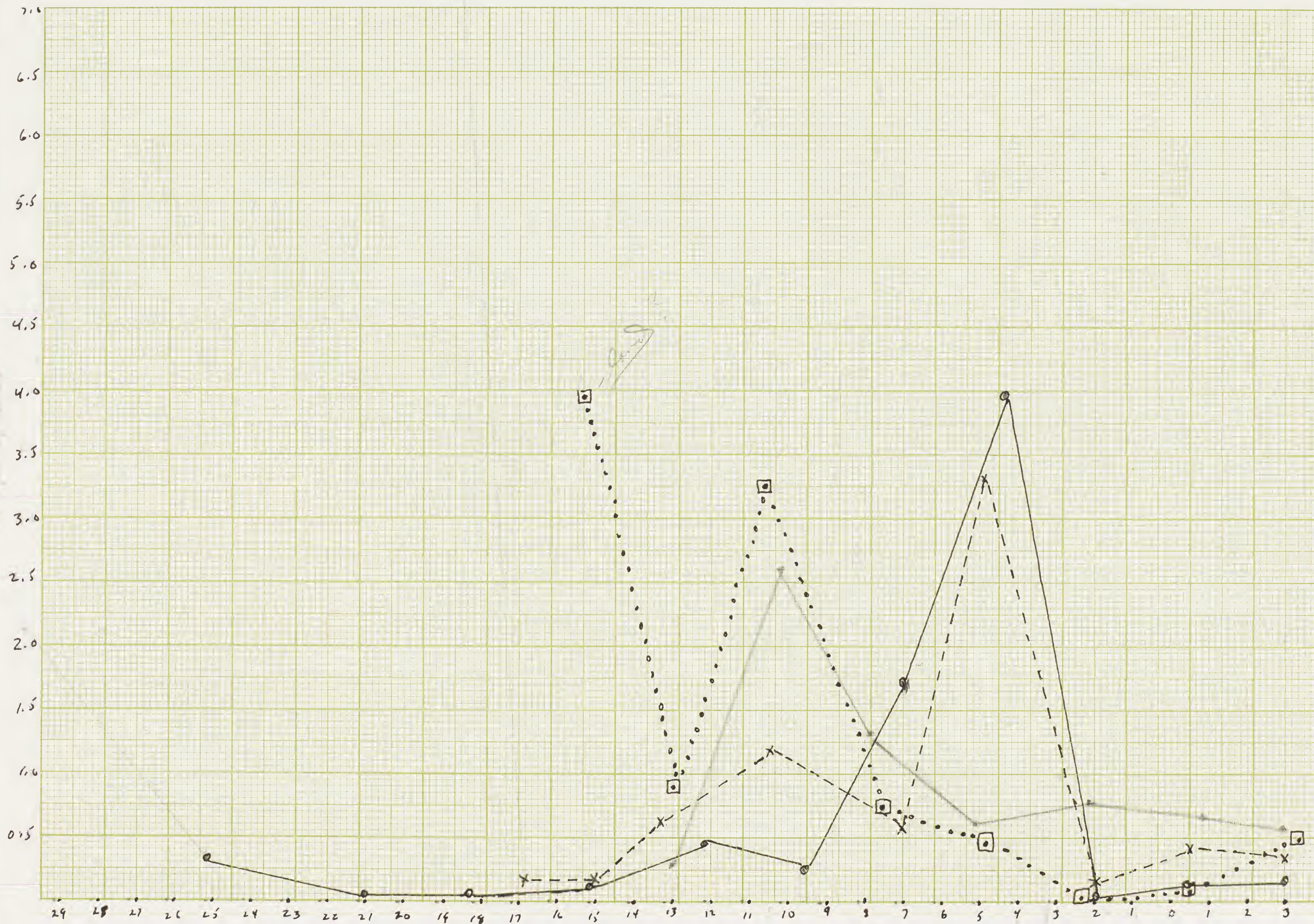


[illegible]

[illegible]

Pink-footed Shear

| | | | | | | |
|-----|----|----|-------|-----|-----|---------|
| 304 | 12 | 13 | 53/57 | 311 | 108 | 495/126 |
|-----|----|----|-------|-----|-----|---------|



| | | | | | | | | | |
|---|------------|--|-------------------|------------------|-------------------|-----------------|-----------------|----------------|--|
| 1 | GROUP SORT | | | | | | | SEX NOTCH M | |
| 2 | | | | | | | | AGE NOTCH AD. | |
| 3 | | SPECIES _____ MUS. No. _____ | | | | | | PERM. RESIDENT | |
| 4 | | LOCALITY _____ | | | | | | BREEDING | |
| 5 | | _____ DATE _____ | | | | | | MIGRANT | |
| 6 | | | | | | | | TRANSIENT | |
| 7 | | COLLECTOR _____ FIELD No. _____ | | | | | | ACCIDENTAL | |
| 8 | | HOW TAKEN _____ DISPO. OF SPEC. _____ | | | | | | STATUS ? | |
| 9 | | AGE _____ SEX _____ WT. _____ RECORDER _____ | | | | | | SHIPBD. RECORD | |
| 10 | | WING _____ TAIL _____ CULMEN _____ TARSUS _____ MID. TOE _____ | | | | | | SIGHT RECORD | |
| 11 | | COLOR NOTES: | | | | | | SPECIMEN | |
| 12 | | | | | | | | POP OBSER. | |
| 13 | | | | | | | | POP SPECIMEN | |
| 14 | | | | | | | | NIGHT RECORD | |
| 15 | | HABITAT: | | | | | | NESTING | |
| 16 | | | | | | | | EGGS | |
| 17 | | | | | | | | YOUNG | |
| 18 | | | | | | | | FOODS NOTED | |
| <div>A14374X <small>REGISTERED MEDIE KEYSORT U.S. PAT. OFF.</small></div> | | | | | | | | | |
| 1 | HUNDREDS | SPECIES | 1 SPHENISCIFORMES | ALCAE | HIRUNDINIDAE | TROGLODYTIDAE | NECTARINIIDAE | BLOOD SAMPLE | |
| 2 | | | CASUARIIFORMES | 10 COLUMBIFORMES | DICRURIDAE | MIMIDAE | DICAEIDAE | ECTOPARASITES | |
| 4 | | | APTERYGIIFORMES | PSITTACIFORMES | ORIOLIDAE | TURDIDAE | ZOSTEROPIDAE | ENDOPARASITES | |
| 7 | | | 2 GAVIIFORMES | CUCULIFORMES | CORVIDAE | SYLVIIDAE | VIREONIDAE | MOLT | |
| | | | PODICIPEDIFORMES | STRIGIFORMES | CRATICIDAE | REGULIDAE | 18 DREPANIDIDAE | ANTARCTIC | |
| 1 | TENS | SPECIES | 3 PROCELLARIIF. | CAPRIMULGIF. | GRALLINIDAE | MUSCICAPIDAE | PARULIDAE | AUSTRALIAN | |
| 2 | | | 4 PELECANIFORMES | APODIFORMES | 14 PTILONORHYNCH. | 16 MOTACILLIDAE | ICTERIDAE | ETHIOPIAN | |
| 4 | | | 5 CICONIIFORMES | 11 TROGONIFORMES | PARADISEIDAE | BOMBYCILLIDAE | FRINGILLIDAE | NEARCTIC | |
| 7 | | | ANSERIFORMES | CORACIIFORMES | PARIDAE | ARTAMIDAE | CARDUELIDAE | NEOTROPICAL | |
| | | | 6 FALCONIFORMES | PICIFORMES | SITTIDAE | LANIIDAE | PLOCEIDAE | OCEANIC | |
| 1 | UNITS | SPECIES | GALLIFORMES | 12 EURYLAIMI | CERTHIIDAE | PRIONOPIIDAE | | ORIENTAL | |
| 2 | | | 7 GRUIFORMES | TYRANNI | TIMALIIDAE | CALLAEIDAE | | PALEARCTIC | |
| 4 | | | 8 CHARADRII | MENURAE | CAMPEPHAGIDAE | 17 STURNIDAE | | | |
| 7 | | | 9 LARI | 13 ALAUDIDAE | 15 CINCLIDAE | MELIPHAGIDAE | | | |
| | | | | | | | | | |

| | | | | | | |
|----|-----------------------------|---------------|---------|--------|-----|--|
| 1 | ALASKA | REPRODUCTION: | YEAR | 1700 → | | |
| 2 | ALEUTIANS | | | 1800 → | | |
| 3 | ANTARCTIC | | | TENS | 1 | |
| 4 | AUSTRALIA, TASMANIA | | | | 2 | |
| 5 | BONIN, VOLCANO IS. | | | | 4 | |
| 6 | CAROLINES | | | 7 | | |
| 7 | CHINA, FORMOSA | MOLT: | UNITS | 1 | | |
| 8 | COOK ISLANDS | | | 2 | | |
| 9 | ELLICE ISLANDS | | | 4 | | |
| 10 | FIJI ISLANDS | | | 7 | | |
| 11 | GILBERTS | | | | | |
| 12 | HAWAIIANS | | | MONTH | JAN | |
| 13 | INDONESIA ^a | FEB | | | | |
| 14 | JAPAN, RIUKIU, DAITO | MAR | | | | |
| 15 | KAMCHATKA PEN. ^b | APR | | | | |
| 16 | KOREA | MAY | | | | |
| 17 | LINE ISLANDS | JUNE | | | | |
| 18 | MARIANAS | JULY | | | | |
| 19 | MARQUESAS | AUG | | | | |
| 20 | MARSHALLS | SEPT | | | | |
| 21 | NEW CALE., LOYALTY | OCT | | | | |
| 22 | NEW GUINEA ^c | NOV | | | | |
| 23 | NEW HEB., SANTA CRUZ | DEC | | | | |
| 24 | NEW ZEALAND ^d | FRAC. | 1 - 10 | | | |
| 25 | N. AMER. & ISLANDS | | 11 - 20 | | | |
| 26 | PHILIPPINES | | 21 - 31 | | | |
| 27 | PHOENIX, TOKELAU | GROUP | A | | | |
| 28 | SAMOA, TONGA | | B | | | |
| 29 | SIBERIA | | C | | | |
| 30 | SOCIETY, TUBUAI | ISLAND | TENS | 1 | | |
| 31 | SOLOMONS | | | 2 | | |
| 32 | S. AMER. & ISLANDS | | | 4 | | |
| 33 | TUAMOTU ARCH. EAST | SORT | UNITS | 7 | | |
| 34 | MISC. OCEANIA | | | 1 | | |
| 35 | | | | 2 | | |
| | | | | 4 | | |
| | | | | 7 | | |

a) Sumatra, Java, Borneo, Madura, Celebes, Moluccas, Lesser Sundas b) Commander and Kurile Islands c) Admiralty, Bismarck Arch., New Britain, New Ireland d) Auckland, Chatham, Kermadec Islands.

$$\begin{array}{r} 6 \\ 115 \\ \hline 690 \end{array}$$

HYPOGASTRIC

There is a slight delay during the entire trip. The most difficult part is the observation of the white-throated blue.

Hypocnemis - all south of coast current in a line of about 26°C surface temp.

white-throated - all south of coast current in a line of about 25°C surface temp.

white-throated - all south of coast current in a line of about 25°C surface temp.

$$\begin{array}{r} 14 \\ 112 \\ \hline 1568 \end{array}$$

BEE 20X20 TO INCH



| NAME OF VESSEL S/V M/V | | | | | NAME OF CAPTAIN | | | | | WB FORM 615-5 (1-64) | | | | | U.S. DEPARTMENT OF COMMERCE WEATHER BUREAU | | | | | | | | | | INSTRUCTIONS | | | | | | | | | | | | | | | | | | | |
|------------------------------|-------------|------------------------------|--|--|--------------------------------------|--|--|---------------------------------------|---|--|--------------------------|--|-----------------------------|---------------------------|---|--|------------------------------------|------------------------------|------------------------------------|-------------------------|------------------------|---|------------------------------|------------------------------|--------------------------------------|---------------------------------|--------------------------------|---|------------------------------------|-----------|-------------------------------|--|----------------------------------|-------------------------------|---|-------------------|-----------|-------------------------------|-------------------|-------------------|----|----|----|--|
| COUNTRY OF REGISTRY | | | | | CALL SIGN | | | | | V O Y A G E | | | | | FROM | | | | | TO | | | | | SHIP'S WEATHER OBSERVATIONS | | | | | | | | | | 1. Begin a new sheet: a. For the first observation of a new month. b. At the beginning of each voyage. c. Upon sailing from one ocean to another. d. Upon sailing from one ocean to another. 2. Fill in the blanks on each page of the form. (Name of vessel, barometer number, etc.) 3. Enter the coded synoptic (0000, 0600, 1200, 1800 G.C.T.) or special weather observations in columns 1 through 44. 4. At end of each voyage, remove all forms with completed observations and mail in the postage-free envelopes provided. 5. Radio transmission—Copy coded data for radio transmission from the unshaded numbered groups of columns. Each code group consists of five figures with a slant (/) indicating missing data. Omit code group 8 and 9 in message if no data are available. | | | | | | | | | |
| MONTH 19 | | | | | BAROMETER NO. | | | | | Check (✓) TEMPERATURES (COLS. 16-18, 28-30, 32-33): | | | | | °C | | | | | °F | | | | | | | | | | | | | | | | | | | | | | | | |
| DAY OF MONTH (G.C.T.) | DAY OF WEEK | POSITION OF SHIP | | TIME (Nearest hour 00-23) (G.C.T.) | TOTAL CLOUD AMT. (Coded) (0-9) | WIND | | VISI- BILITY (Coded) (90-99) | WEATHER | | PRESSURE | | AIR TEMP. (Round- ed) | TEMPERA- TURE | | CLOUDS (Coded) | | | | COURSE OF SHIP (0-9) | SPEED OF SHIP (0-9) | 3-HOUR PRESSURE TENDENCY (0-9) | TEMPERATURE | | | DIFF. AIR- SEA (Coded) | DEW POINT (Round- ed) | WAVES (Make 2 entries if 2nd pattern observed) | | | | REMARKS (Enter time of wind shifts, frontal passages, beginning and ending of precipita- tion, coded ice data, waves over 30 1/2 ft., etc.) | CHECK (✓) IF SENT BY RADIO | INITIALS | | | | | | | | | | |
| | | OCT- ANT (0-3, 5-8) | LATITUDE (Degrees and tenths) | | | LONGI- TITUDE (Degrees and tenths) | DI- REC- TION (True) (00-36) | | SPEED (True- knots) EST. MEAS. (00-99) | PRES- ENT (Coded) (00-99) | PAST (Coded) (0-9) | CORREC- TION (in., mb., or mm.) | | DATE COMPARED (mb.) | DRY BULB (Degrees and tenths) | WET BULB (Degrees and tenths) | AMOUNT OF LOW CLOUD (0-9) | TYPE C _L (0-9) | HEIGHT OF LOW CLOUD (0-9) | | | | TYPE C _H (0-9) | TYPE C _M (0-9) | SEA WATER (Degrees and tenths) | | | DIFF. AIR-SEA (-if air colder than sea) | DEW POINT (Whole degrees) | INDICATOR | SEA WATER (00-36) | | | | PERIOD (Coded) | HEIGHT (Coded) | INDICATOR | SEA WATER (00-36) | PERIOD (Coded) | HEIGHT (Coded) | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | |
| — | Y | Q | L ₀ L ₀ L ₀ | L ₀ L ₀ L ₀ | GG | N | dd | ff | VV | ww | W | — | — | PPP | TT | — | — | N _h | C _L | h | C _M | C _H | D _S | vs | a | pp | — | — | — | 0 | T _s T _s | T _d T _d | 1 | d _w d _w | P _w | H _w | 1 | d _w d _w | P _w | H _w | — | — | — | |
| | | | | | 00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | 5 | 1 | 321 | 173 | 06 | 8 | 04 | 04 | 98 | 02 | 2 | 1015.0 | 10 | 154 | 17 | 16.5 | 14.6 | 8 | 5 | 1 | 1 | 4 | 4 | 1 | 08 | 19.4 | -2.9 | 13 | 0 | 56 | 13 | 1 | 04 | 2 | 2 | 1 | | | | | | | | |
| 15 | 5 | 1 | 311 | 174 | 12 | 8 | 34 | 11 | 98 | 02 | 2 | 1013.1 | 10 | 135 | 15 | 15.3 | 14.0 | 8 | 5 | 1 | 1 | 4 | 4 | 5 | 05 | 18.4 | -3.1 | 13 | 0 | 56 | 13 | 1 | 34 | 2 | 2 | 1 | | | | | | | | |
| 15 | 5 | 1 | 300 | 177 | 18 | 8 | 34 | 16 | 98 | 02 | 2 | 1014.2 | 10 | 146 | 16 | 15.6 | 14.0 | 8 | 5 | 1 | 1 | 4 | 4 | 4 | 00 | 16.7 | -1.1 | 13 | 0 | 52 | 13 | 1 | 34 | 2 | 3 | 1 | | | | | | | | |
| 16 | 6 | 1 | 289 | 180 | 00 | 3 | 34 | 18 | 98 | 01 | 1 | 1011.8 | 10 | 122 | 18 | 17.8 | 15.6 | 2 | 8 | 5 | 0 | 1 | 4 | 4 | 8 | 12 | 17.2 | 0.6 | 14 | 0 | 01 | 14 | 1 | 34 | 2 | 3 | 1 | | | | | | | |
| 16 | 6 | 1 | 277 | 180 | 06 | 8 | 32 | 15 | 98 | 03 | 1 | 1012.4 | 10 | 128 | 17 | 17.0 | 15.0 | 8 | 5 | 1 | 1 | 4 | 4 | 2 | 06 | 17.6 | -0.6 | 14 | 0 | 51 | 14 | 1 | 32 | 2 | 3 | 1 | | | | | | | | |
| 16 | 6 | 1 | 266 | 181 | 12 | 8 | 32 | 12 | 98 | 02 | 1 | 1011.0 | 10 | 114 | 17 | 16.6 | 14.7 | 8 | 5 | 1 | 1 | 4 | 4 | 6 | 07 | 18.1 | -1.5 | 13 | 0 | 53 | 13 | 1 | 32 | 2 | 3 | 1 | | | | | | | | |
| 16 | 6 | 1 | 255 | 181 | 18 | 8 | 34 | 07 | 98 | 02 | 2 | 1012.7 | 10 | 131 | 15 | 17.7 | 15.0 | 8 | 5 | 1 | 1 | 4 | 4 | 1 | 03 | 18.0 | -0.3 | 13 | 0 | 51 | 13 | 1 | 33 | 2 | 1 | 1 | | | | | | | | |
| 16 | 6 | 1 | 243 | 182 | 23 | 8 | 34 | 12 | 99 | 02 | 2 | 1011.2 | 10 | 116 | 19 | 19.0 | 16.4 | 8 | 8 | 5 | 1 | 4 | 4 | 7 | 10 | 19.6 | -0.6 | 15 | 0 | 51 | 15 | 1 | 33 | 2 | 1 | 1 | | | | | | | | |
| 17 | 7 | 1 | 232 | 183 | 06 | 8 | 35 | 11 | 98 | 02 | 2 | 1011.7 | 10 | 121 | 19 | 19.0 | 15.7 | 8 | 8 | 5 | 1 | 4 | 4 | 2 | 08 | 19.7 | -0.7 | 14 | 0 | 51 | 14 | 1 | 34 | 2 | 2 | 1 | | | | | | | | |
| 17 | 7 | 1 | 221 | 183 | 12 | 8 | 34 | 09 | 98 | 02 | 2 | 1011.1 | 10 | 115 | 19 | 19.4 | 15.6 | 8 | 8 | 5 | 1 | 4 | 4 | 6 | 02 | 20.4 | -1.0 | 13 | 0 | 52 | 13 | 1 | 34 | 2 | 2 | 1 | | | | | | | | |
| 17 | 7 | 1 | 211 | 184 | 18 | 8 | 36 | 08 | 98 | 02 | 2 | 1013.9 | 10 | 143 | 20 | 19.8 | 16.3 | 8 | 5 | 1 | 1 | 4 | 4 | 2 | 14 | 21.1 | -1.3 | 14 | 0 | 53 | 14 | 1 | 35 | 2 | 2 | 1 | | | | | | | | |
| 17 | 7 | 1 | 204 | 183 | 23 | 8 | 36 | 10 | 98 | 02 | 2 | 1011.5 | 10 | 119 | 21 | 20.8 | 17.2 | 8 | 8 | 5 | 1 | 4 | 4 | 7 | 15 | 22.8 | -2.0 | 15 | 0 | 54 | 15 | 1 | 36 | 2 | 2 | 1 | | | | | | | | |
| 18 | 1 | 1 | 196 | 185 | 06 | 8 | 01 | 07 | 98 | 02 | 2 | 1013.4 | 10 | 138 | 22 | 22.2 | 17.8 | 8 | 8 | 5 | 1 | 4 | 3 | 2 | 15 | 24.1 | -1.9 | 16 | 0 | 54 | 16 | 1 | 36 | 2 | 2 | 1 | | | | | | | | |
| 18 | 1 | 1 | 191 | 185 | 12 | 8 | 36 | 11 | 98 | 25 | 2 | 1012.0 | 10 | 124 | 22 | 21.5 | 17.5 | 8 | 8 | 5 | 1 | 4 | 3 | 7 | 08 | 23.9 | -2.4 | 15 | 0 | 55 | 15 | 1 | 36 | 2 | 2 | 1 | | | | | | | | |
| 18 | 1 | 1 | 182 | 185 | 18 | 8 | 32 | 06 | 98 | 02 | 2 | 1014.0 | 10 | 144 | 23 | 23.0 | 19.2 | 8 | 8 | 5 | 1 | 0 | 0 | 1 | 03 | 24.6 | -1.6 | 17 | 0 | 53 | 17 | 1 | 33 | 2 | 1 | 1 | | | | | | | | |
| 18 | 1 | 1 | 177 | 182 | 23 | 8 | 01 | 05 | 98 | 02 | 2 | 1012.1 | 10 | 125 | 24 | 24.0 | 20.0 | 8 | 8 | 5 | 1 | 4 | 4 | 7 | 07 | 24.4 | -0.4 | 19 | 0 | 51 | 18 | 1 | 35 | 2 | 1 | 1 | | | | | | | | |
| 19 | 2 | 1 | 169 | 185 | 06 | 8 | 04 | 10 | 98 | 02 | 2 | 1014.2 | 10 | 146 | 24 | 23.7 | 20.0 | 8 | 8 | 5 | 1 | 4 | 3 | 2 | 12 | 25.0 | -1.3 | 18 | 0 | 53 | 18 | 1 | 04 | 2 | 1 | 1 | | | | | | | | |
| 19 | 2 | 1 | 161 | 185 | 12 | 7 | 02 | 10 | 98 | 02 | 2 | 1012.0 | 10 | 124 | 23 | 23.4 | 19.8 | 7 | 8 | 5 | 1 | 4 | 4 | 6 | 12 | 25.3 | -1.9 | 18 | 0 | 54 | 18 | 1 | 03 | 2 | 1 | 1 | | | | | | | | |
| 19 | 2 | 1 | 152 | 185 | 18 | 7 | 36 | 10 | 98 | 02 | 2 | 1014.0 | 10 | 144 | 25 | 25.4 | 22.4 | 7 | 8 | 5 | 1 | 0 | 0 | 0 | 03 | 25.9 | -0.5 | 21 | 0 | 51 | 21 | 1 | 01 | 2 | 2 | 1 | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | |
| — | Y | Q | L ₀ L ₀ L ₀ | L ₀ L ₀ L ₀ | GG | N | dd | ff | VV | ww | W | — | — | PPP | TT | — | — | N _h | C _L | h | C _M | C _H | D _S | vs | a | pp | — | — | — | 0 | T _s T _s | T _d T _d | 1 | d _w d _w | P _w | H _w | 1 | d _w d _w | P _w | H _w | — | — | — | |

SHIP'S WEATHER OBSERVATIONS

| | |
|--|-----------|
| NAME OF VESSEL <input type="checkbox"/> S/S <input type="checkbox"/> M/V | CALL SIGN |
|--|-----------|

MAILING ADDRESS (*American addresses preferred*)

CHECK FORMS OR SUPPLIES REQUIRED

☐ SHIP'S WEATHER OBSERVATIONS, WB FORM 615-5
☐ METEOROLOGICAL RADIOTELEGRAM, WB FORM 630-9
☐ BAROGRAM, WB FORM 455-12

WEATHER MAP BASES

☐ N. ATLANTIC - U.S. INTERCOASTAL
☐ N. PACIFIC - U.S. INTERCOASTAL
☐ S. ATLANTIC - U.S. INTERCOASTAL
☐ S. PACIFIC - INDIAN OCEAN
☐ WEATHER SERVICE FOR MERCHANT SHIPPING
☐ ENVELOPES

INSTRUMENTS IN NEED OF SERVICE

☐ BAROMETER ☐ BAROGRAPH ☐ PSYCHROMETER

DO NOT WRITE BELOW

RECEIVED (*Weather Bureau Office*)

ACTION TAKEN (*Check one*)

☐ SUPPLIES FURNISHED AS MARKED X ☐ ACKNOWLEDGED
☐ ALL ACTION REFERRED TO CENTRAL OFFICE

DATE ACTION TAKEN

| NAME OF VESSEL S/S M/V | | | | | NAME OF CAPTAIN | | | | | WB FORM 615-5 (1-64) | | | | | U.S. DEPARTMENT OF COMMERCE WEATHER BUREAU | | | | | | | | | | INSTRUCTIONS | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|-------------|------------------------------|--|--|--|--------------------------------------|--|---|---------------------------------------|------------------------------------|--------------------------|--|---------------------------------|-----------------------------|--|--|--|------------------------|------------------------------|---------------------------------|-------------------------|------------------------|---|------------------------------|------------------------------|--------------------------------------|---------------------------------|--------------------------------|--|--|-------------------------------|-------------------------------|--|----------------------------------|----------------|-------------------|-------------------|-------------------------------|-------------------------|-------------------|----------------------------|-------|----|------|-------|--|--|
| COUNTRY OF REGISTRY | | | | | CALL SIGN | | | | | VOYAGE | | | | | FROM | | | | | SHIP'S WEATHER OBSERVATIONS | | | | | | | | | | 1. Begin a new sheet: a. For the first observation of a new month. b. At the beginning of each voyage. c. Upon sailing from one ocean to another. d. Upon sailing from one ocean to another. 2. Fill in the blanks on each page of the form. (Name of vessel, barometer number, etc.) 3. Enter the coded synoptic (0000, 0600, 1200, 1800 G.C.T.) or special weather observations in columns 1 through 44. | | | | | | | | | | | | | | | | | |
| MONTH 19 | | | | | BAROMETER NO. | | | | | TO | | | | | Check (✓) TEMPERATURES (COLS. 16-18, 28-30, 32-33): °C °F | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DAY OF MONTH (G.C.T.) | DAY OF WEEK | POSITION OF SHIP | | | TIME (Nearest hour 00-23) (G.C.T.) | TOTAL CLOUD AMT. (Coded) (0-9) | WIND | | VISI- BILITY (Coded) (90-99) | WEATHER | | PRESSURE | | AIR TEMP. (Round- ed) | TEMPERA- TURE | | CLOUDS (Coded) | | | | COURSE OF SHIP (1-9) | SPEED OF SHIP (1-9) | 3-HOUR PRESSURE TENDENCY (0-5) | TEMPERATURE | | | DIFF. AIR- SEA (Coded) | DEW POINT (Round- ed) | WAVES (Make 2 entries if 2nd pattern observed) | | | | REMARKS (Enter time of wind shifts, frontal passages, beginning and ending of precipita- tion, coded ice data, waves over 30 1/2 ft., etc.) | CHECK (✓) IF SENT BY RADIO | INITIALS | | | | | | | | | | | | |
| | | OCT- ANT (0-3, 5-8) | LATITUDE (Degrees and tenths) | LONGI- TITUDE (Degrees and tenths) | | | DI- REC- TION (True) (00-36) | SPEED (True knots) EST. MEAS. (0-36) | | PRES- ENT (Coded) (00-99) | PAST (Coded) (0-9) | BAROME- TER AS READ (in., mb., or mm.) | BAROMETER CORRECTED (mb.) | | CODED Sea Level (mb.) | DRY BULB (Degrees and tenths) | WET BULB (Degrees and tenths) | AMOUNT OF LOW CLOUD | TYPE C _L (0-9) | HEIGHT OF LOW CLOUD (0-9) | | | | TYPE C _M (0-9) | TYPE C _H (0-9) | SEA WATER (Degrees and tenths) | | | DIFF. AIR-SEA (-if air colder than sea) | DEW POINT (Whole degrees) | INDICATOR | SEA WATER (00-36) | | | | PERIOD (Coded) | HEIGHT (Coded) | INDICATOR | SEA WATER (00-36) | PERIOD (Coded) | HEIGHT (Coded) | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | | | | |
| — | Y | Q | L _a L _a L _a | L _o L _o L _o | GG | N | dd | ff | VV | ww | W | — | — | PPP | TT | — | — | N _h | C _L | h | C _M | C _H | D _s | vs | a | pp | — | — | — | 0 | T _e T _s | T _d T _d | 1 | d _w d _w | P _w | H _w | 1 | d _w d _w | P _w | H _w | — | — | — | | | | |
| 19 | 2 | 1 | 14.6 | 185 | 23 00 | 6 | 04 | 12 | 98 | 02 | 2 | 1011.7 | 10 | 121 | 26 | 25.5 | 22.2 | 6 | 2 | 5 | 0 | 0 | 4 | 3 | 7 | 15 | 26.1 | -0.6 | 21 | 0 | 51 | 21 | 1 | 04 | 2 | 2 | 1 | | | | 3311 | 11418 | | | | | |
| 20 | 3 | 1 | 13.7 | 185 | 06 | 8 | 04 | 11 | 98 | 02 | 2 | 1012.6 | 10 | 130 | 26 | 25.8 | 22.3 | 8 | 2 | 5 | 1 | 1 | 4 | 3 | 1 | 10 | 26.9 | -1.1 | 21 | 0 | 52 | 21 | 1 | 04 | 2 | 2 | 1 | | | | | | | | | | |
| 20 | 3 | 1 | 13.1 | 185 | 12 | 4 | 04 | 12 | 98 | 01 | 1 | 1010.0 | 10 | 104 | 26 | 25.5 | 23.5 | 3 | 2 | 5 | 1 | 1 | 4 | 6 | 12 | 26.7 | -1.2 | 23 | 0 | 52 | 23 | 1 | 04 | 2 | 2 | 1 | | | | 3311 | 11318 | | | | | | |
| 20 | 3 | 1 | 12.2 | 186 | 18 | 5 | 08 | 11 | 98 | 02 | 1 | 1012.6 | 10 | 124 | 27 | 26.7 | 24.5 | 3 | 2 | 4 | 0 | 2 | 0 | 0 | 1 | 07 | 27.5 | -0.8 | 24 | 0 | 52 | 24 | 1 | 06 | 2 | 2 | 1 | | | | 3311 | 11218 | | | | | |
| 20 | 3 | 1 | 11.7 | 185 | 23 00 | 8 | 02 | 12 | 98 | 15 | 2 | 1009.4 | 10 | 098 | 27 | 27.0 | 25.0 | 5 | 2 | 4 | 6 | 1 | 4 | 4 | 7 | 17 | 27.3 | -0.3 | 24 | 0 | 51 | 24 | 1 | 04 | 2 | 2 | 1 | | | | 3311 | 11118 | | | | | |
| 21 | 4 | 1 | 10.5 | 186 | 06 | 8 | 01 | 10 | 97 | 81 | 8 | 1013.0 | 10 | 13.4 | 25 | 25.3 | 24.3 | 8 | 2 | 4 | 1 | 1 | 4 | 3 | 2 | 20 | 27.3 | -2.0 | 24 | 0 | 54 | 24 | 1 | 01 | 2 | 2 | 1 | | | | | | | | | | |
| 21 | 4 | 1 | 10.2 | 188 | 12 | 8 | 28 | 15 | 97 | 80 | 8 | 1010.2 | 10 | 106 | 25 | 25.0 | 24.0 | 6 | 2 | 4 | 6 | 1 | 4 | 4 | 5 | 07 | 27.4 | -2.4 | 24 | 0 | 55 | 24 | 1 | 27 | 2 | 3 | 1 | | | | 3311 | 11018 | | | | | |
| 21 | 4 | 1 | 09.6 | 190 | 18 | 7 | 27 | 11 | 98 | 01 | 8 | 1012.0 | 10 | 124 | 27 | 26.8 | 24.4 | 2 | 2 | 4 | 7 | 0 | 0 | 0 | 2 | 10 | 27.5 | -0.7 | 24 | 0 | 51 | 24 | 1 | 27 | 2 | 2 | 1 | | | | 3311 | 10919 | | | | | |
| 21 | 4 | 1 | 09.3 | 189 | 00 | 8 | 26 | 14 | 98 | 80 | 8 | 1009.3 | 10 | 097 | 25 | 25.0 | 24.0 | 8 | 2 | 4 | 1 | 1 | 3 | 1 | 6 | 15 | 27.4 | -2.4 | 24 | 0 | 55 | 24 | 1 | 26 | 2 | 2 | 1 | | | | * 2311 04E 3311 10918 | | | | | | |
| 22 | 5 | 1 | 08.6 | 185 | 06 | 3 | 26 | 12 | 98 | 01 | 8 | 1012.4 | 10 | 128 | 26 | 26.0 | 24.5 | 2 | 2 | 4 | 6 | 0 | 3 | 2 | 2 | 13 | 27.5 | -1.5 | 24 | 0 | 53 | 24 | 1 | 26 | 2 | 2 | 1 | | | | | | | | | | |
| 22 | 5 | 1 | 08.0 | 185 | 12 | 2 | 30 | 09 | 98 | 02 | 0 | 1009.7 | 10 | 101 | 27 | 26.5 | 24.5 | 2 | 2 | 4 | 0 | 0 | 4 | 2 | 6 | 08 | 27.6 | -1.1 | 24 | 0 | 52 | 24 | 1 | 30 | 2 | 2 | 1 | | | | 3311 | 10818 | | | | | |
| 22 | 5 | 1 | 07.0 | 186 | 18 | 4 | 21 | 06 | 98 | 02 | 0 | 1012.3 | 10 | 127 | 27 | 26.5 | 24.0 | 2 | 2 | 4 | 0 | 5 | 4 | 4 | 2 | 17 | 27.6 | -1.1 | 23 | 0 | 52 | 23 | 1 | 23 | 2 | 2 | 1 | | | | 3311 | 10718 | | | | | |
| 22 | 5 | 1 | 06.4 | 188 | 23 00 | 6 | 20 | 07 | 98 | 02 | 1 | 1010.1 | 10 | 105 | 27 | 26.6 | 24.2 | 3 | 2 | 4 | 3 | 5 | 4 | 4 | 8 | 17 | 27.8 | -1.2 | 23 | 0 | 52 | 23 | 1 | 18 | 2 | 2 | 1 | | | | * 20411 3311 10618 | | | | | | |
| 23 | 6 | 1 | 05.6 | 188 | 06 | 7 | 32 | 06 | 98 | 02 | 2 | 1012.9 | 10 | 133 | 25 | 25.0 | 23.5 | 5 | 2 | 4 | 3 | 2 | 3 | 2 | 2 | 15 | 27.2 | -2.2 | 23 | 0 | 54 | 23 | 1 | 32 | 2 | 2 | 1 | | | | | | | | | | |
| 23 | 6 | 1 | 05.0 | 185 | 12 | 8 | 18 | 09 | 98 | 02 | 8 | 1010.0 | 10 | 104 | 26 | 26.4 | 23.4 | 5 | 7 | 4 | 2 | 1 | 3 | 4 | 6 | 12 | 27.6 | -1.2 | 22 | 0 | 52 | 22 | 1 | 18 | 2 | 1 | 1 | 13 | 4 | 4 | | | | 3311 | 10518 | | |
| 23 | 6 | 1 | 04.3 | 185 | 18 | 7 | 15 | 14 | 98 | 01 | 6 | 1012.4 | 10 | 128 | 27 | 26.4 | 23.9 | 3 | 7 | 4 | 2 | 0 | 4 | 4 | 2 | 14 | 27.4 | -0.5 | 23 | 0 | 51 | 23 | 1 | 15 | 3 | 5 | 1 | | | | 3311 | 10418 | | | | | |
| 23 | 6 | 1 | 03.8 | 185 | 23 00 | 6 | 13 | 16 | 98 | 02 | 2 | 1010.2 | 10 | 106 | 27 | 26.5 | 23.5 | 4 | 2 | 4 | 0 | 2 | 4 | 3 | 2 | 20 | 27.4 | -0.9 | 22 | 0 | 52 | 22 | 1 | 13 | 3 | 5 | 1 | | | | * 22011 TW 0 3311 10318 | | | | | | |
| 24 | 7 | 1 | 03.1 | 185 | 06 | 7 | 13 | 15 | 98 | 02 | 2 | 1013.2 | 10 | 136 | 26 | 26.2 | 23.9 | 7 | 8 | 4 | 0 | 0 | 4 | 3 | 1 | 14 | 27.2 | -1.0 | 23 | 0 | 52 | 23 | 1 | 13 | 3 | 5 | 1 | | | | | | | | | | |
| 24 | 7 | 1 | 02.6 | 185 | 12 | 6 | 13 | 14 | 98 | 02 | 2 | 1011.0 | 10 | 114 | 25 | 25.4 | 23.4 | 4 | 2 | 4 | 3 | 0 | 4 | 3 | 6 | 06 | 26.3 | -0.9 | 23 | 0 | 52 | 23 | 1 | 13 | 3 | 5 | 1 | | | | 3311 | 10218 | | | | | |
| 24 | 7 | 1 | 01.8 | 185 | 18 | 4 | 13 | 12 | 98 | 02 | 8 | 1013.1 | 10 | 134 | 26 | 26.0 | 24.0 | 4 | 2 | 4 | 0 | 0 | 0 | 0 | 2 | 15 | 25.8 | 0.2 | 23 | 0 | 00 | 23 | 1 | 13 | 3 | 4 | 1 | | | | 3311 | 10118 | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | | | | |
| — | Y | Q | L _a L _a L _a | L _o L _o L _o | GG | N | dd | ff | VV | ww | W | — | — | PPP | TT | — | — | N _h | C _L | h | C _M | C _H | D _s | vs | a | pp | — | — | — | 0 | T _e T _s | T _d T _d | 1 | d _w d _w | P _w | H _w | 1 | d _w d _w | P _w | H _w | — | — | — | | | | |

SHIP'S WEATHER OBSERVATIONS

| | |
|--|-----------|
| NAME OF VESSEL <input type="checkbox"/> S/S <input type="checkbox"/> M/V | CALL SIGN |
|--|-----------|

MAILING ADDRESS (*American addresses preferred*)

CHECK FORMS OR SUPPLIES REQUIRED

☐ SHIP'S WEATHER OBSERVATIONS, WB FORM 615-5
☐ METEOROLOGICAL RADIOTELEGRAM, WB FORM 630-9
☐ BAROGRAM, WB FORM 455-12

WEATHER MAP BASES

☐ N. ATLANTIC - U.S. INTERCOASTAL
☐ N. PACIFIC - U.S. INTERCOASTAL
☐ S. ATLANTIC - U.S. INTERCOASTAL
☐ S. PACIFIC - INDIAN OCEAN
☐ WEATHER SERVICE FOR MERCHANT SHIPPING
☐ ENVELOPES

INSTRUMENTS IN NEED OF SERVICE

☐ BAROMETER ☐ BAROGRAPH ☐ PSYCHROMETER

DO NOT WRITE BELOW

RECEIVED (*Weather Bureau Office*)

ACTION TAKEN (*Check one*)

☐ SUPPLIES FURNISHED AS MARKED X ☐ ACKNOWLEDGED
☐ ALL ACTION REFERRED TO CENTRAL OFFICE

DATE ACTION TAKEN

NAME OF VESSEL

☐ S/S
☐ M/V

COUNTRY OF REGISTRY

MONTH
June 19*67*

NAME OF CAPTAIN

CALL SIGN
WTDK

BAROMETER NO.
2114

WB FORM 615-5
(1-64)

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

SHIP'S WEATHER OBSERVATIONS

Check (✓)
TEMPERATURES (COLS. 16-18, 28-30, 32-33): ☒ C ☐ °F

INSTRUCTIONS

1. Begin a new sheet:
a. For the first observation of a new month.
b. At the beginning of each voyage.
c. Upon sailing from one ocean to another.
d. Upon sailing from one ocean to another.

2. Fill in the blanks on each page of the form. (Name of vessel, barometer number, etc.)

3. Enter the coded synoptic (0000, 0600, 1200, 1800 G.C.T.) or special weather observations in columns 1 through 44.

4. At end of each voyage, remove all forms with completed observations and mail in the postage-free envelopes provided.

5. Radio transmission—Copy coded data for radio transmission from the unshaded numbered groups of columns. Each code group consists of five figures with a slant (/) indicating missing data. Omit code group 8 and 9 in message if no data are available.

Code the message in accordance with the "International Weather Code for Ships."

| DAY OF MONTH (G.C.T.) | DAY OF WEEK | POSITION OF SHIP | | | TIME (Nearest hour 00-23) (G.C.T.) | TOTAL CLOUD AMT. (Coded) (0-9) | WIND | | VISI-BILITY (Coded) (90-99) | WEATHER | | PRESSURE | | AIR TEMP. (Round-ed) | TEMPERA-TURE | | CLOUDS (Coded) | | | | COURSE OF SHIP (1-9) | SPEED OF SHIP (1-9) | 3-HOUR PRESSURE TENDENCY | | TEMPERATURE | | | DIFF. AIR-SEA (Coded) | DEW POINT (Round-ed) | WAVES (Make 2 entries if 2nd pattern observed) | | | | REMARKS (Enter time of wind shifts, frontal passages, beginning and ending of precipitation, coded ice data, waves over 30½ ft., etc.) | CHECK (✓) IF SENT BY RADIO | INITIALS | | | | | | | |
|--------------------------|-------------|------------------------|--|--|--|--------------------------------------|----------------------------------|--|-----------------------------------|--------------------------------|--------------------------|--|---|-------------------------|--------------------|----------------------------------|----------------------------------|---------------------|------------------------------|------------------------------|-------------------------|------------------------|------------------------------|------------------------------|--------------------------------------|-----------------------------------|--|--------------------------|-------------------------|--|-------------------------------|-------------------------------|-------------------|---|----------------------------|----------------|-------------------|-------------------------------|---------------------------------|-------------------|-------------------|----|----|
| | | OCT. ANT (0-3, 5-8) | LATITUDE (Degrees and tenths) | LONGI-TUDE (Degrees and tenths) | | | DI-REC-TION (True) (00-36) | SPEED (True knots) EST. MEAS □ | | PRES-ENT (Coded) (00-99) | PAST (Coded) (0-9) | CORREC-TION BAROMETER AS READ (in., mb., or mm.) | DATE COMPARED BAROMETER CORRECTED (mb.) | | Sea Level (mb.) | DRY BULB (Degrees and tenths) | WET BULB (Degrees and tenths) | AMOUNT OF LOW CLOUD | TYPE C _L (0-9) | HEIGHT OF LOW CLOUD (0-9) | | | TYPE C _M (0-9) | TYPE C _H (0-9) | AMOUNT OF CHANGE (mb. and tenths) | SEA WATER (Degrees and tenths) | DIFF. AIR-SEA (-if air colder than sea) | | | DEW POINT (Whole degrees) | INDICATOR | SEA (00-36) (Coded) | PERIOD (Coded) | | | | HEIGHT (Coded) | INDICATOR | DIRECTION (00-36) (Coded) | PERIOD (Coded) | HEIGHT (Coded) | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 |
| — | Y | Q | L ₃ L ₂ L ₁ | L ₀ L ₀ L ₀ | GG | N | dd | ff | VV | ww | W | — | — | PPP | TT | — | — | N _b | C _L | h | C _M | C _H | D _s | v _s | a | pp | — | — | — | 0 | T _s T _s | T _d T _d | 1 | d _w d _w | P _w | H _w | 1 | d _w d _w | P _w | H _w | — | — | — |
| 24 | 7 | 1 | 013 | 185 | 00 | 2 | 12 | 15 | 98 | 02 | 1 | 1010.3 | 10 | 107 | 25 | 25.4 | 23.2 | 2 | 2 | 4 | 0 | 0 | 4 | 4 | 7 | 17 | 25.8 | -0.4 | 22 | 0 | 51 | 22 | 1 | 13 | 3 | 5 | 1 | | | | | | |
| 25 | 1 | 1 | 006 | 185 | 06 | 6 | 0 | 14 | 98 | 03 | 1 | 1013.4 | 10 | 138 | 25 | 25.2 | 23.8 | 4 | 2 | 4 | 6 | 0 | 4 | 3 | 2 | 20 | 25.1 | 0.1 | 24 | 0 | 00 | 24 | 1 | 09 | 3 | 4 | 1 | | | | | | |
| 25 | 1 | 1 | 001 | 185 | 12 | 7 | 9 | 14 | 98 | 15 | 2 | 1011.8 | 10 | 122 | 25 | 24.6 | 23.0 | 7 | 2 | 4 | 0 | 0 | 4 | 4 | 6 | 07 | 24.8 | -0.2 | 22 | 0 | 00 | 22 | 1 | 10 | 3 | 4 | 1 | | | | | | |
| 25 | 1 | 6 | 006 | 185 | 18 | 6 | 12 | 10 | 98 | 02 | 2 | 1013.8 | 10 | 142 | 25 | 25.4 | 23.4 | 6 | 8 | 5 | 0 | 0 | 4 | 4 | 1 | 07 | 24.8 | 0.6 | 23 | 0 | 01 | 23 | 1 | 13 | 3 | 3 | 1 | | | | | | |
| 25 | 1 | 6 | 009 | 185 | 00 | 2 | 13 | 16 | 98 | 01 | 1 | 1010.7 | 10 | 111 | 25 | 25.3 | 23.3 | 2 | 2 | 4 | 0 | 0 | 4 | 2 | 7 | 21 | 25.2 | 0.1 | 23 | 0 | 00 | 23 | 1 | 13 | 3 | 4 | 1 | | | | | | |
| 26 | 2 | 6 | 016 | 183 | 06 | 2 | 12 | 18 | 98 | 02 | 6 | 1013.7 | 10 | 131 | 25 | 25.0 | 23.5 | 2 | 2 | 4 | 0 | 0 | 4 | 3 | 1 | 10 | 25.4 | -0.4 | 23 | 0 | 51 | 23 | 1 | 12 | 3 | 4 | 1 | | | | | | |
| 26 | 2 | 6 | 023 | 184 | 12 | 2 | 12 | 19 | 98 | 02 | 0 | 1012.0 | 10 | 124 | 25 | 25.3 | 23.7 | 2 | 2 | 4 | 0 | 0 | 4 | 3 | 5 | 00 | 25.6 | -0.3 | 23 | 0 | 51 | 23 | 1 | 12 | 3 | 4 | 1 | | | | | | |
| 26 | 2 | 6 | 030 | 185 | 18 | 3 | 11 | 15 | 98 | 02 | 0 | 1013.7 | 10 | 141 | 26 | 26.0 | 24.4 | 3 | 2 | 4 | 0 | 0 | 4 | 4 | 1 | 07 | 25.6 | 0.4 | 24 | 0 | 01 | 24 | 1 | 12 | 3 | 4 | 1 | | | | | | |
| 26 | 2 | 6 | 030 | 182 | 00 | 2 | 11 | 14 | 98 | 02 | 0 | 1010.9 | 10 | 113 | 26 | 26.4 | 24.0 | 2 | 1 | 4 | 6 | 0 | 2 | 4 | 7 | 17 | 25.6 | 0.8 | 23 | 0 | 02 | 23 | 1 | 12 | 3 | 4 | 1 | | | | | | |
| 27 | 3 | 6 | 030 | 173 | 06 | 3 | 13 | 20 | 98 | 02 | 0 | 1012.8 | 10 | 132 | 25 | 25.4 | 23.2 | 3 | 2 | 4 | 0 | 0 | 2 | 4 | 1 | 10 | 25.7 | -0.3 | 22 | 0 | 51 | 22 | 1 | 12 | 3 | 4 | 1 | | | | | | |
| 27 | 3 | 6 | 030 | 163 | 12 | 7 | 13 | 17 | 98 | 03 | 1 | 1011.5 | 10 | 119 | 25 | 25.0 | 23.0 | 7 | 8 | 4 | 0 | 0 | 2 | 3 | 6 | 07 | 25.5 | -0.5 | 22 | 0 | 51 | 22 | 1 | 12 | 3 | 5 | 1 | | | | | | |
| 27 | 3 | 6 | 030 | 154 | 18 | 4 | 13 | 18 | 98 | 02 | 1 | 1014.4 | 10 | 149 | 25 | 25.0 | 23.4 | 4 | 8 | 4 | 0 | 0 | 2 | 3 | 1 | 10 | 25.3 | -0.3 | 23 | 0 | 51 | 23 | 1 | 12 | 3 | 5 | 1 | | | | | | |
| 27 | 3 | 6 | 030 | 146 | 00 | 1 | 14 | 17 | 98 | 01 | 1 | 1011.7 | 10 | 121 | 25 | 25.3 | 22.3 | 1 | 1 | 4 | 0 | 0 | 2 | 3 | 7 | 16 | 25.3 | 0.0 | 22 | 0 | 00 | 22 | 1 | 14 | 3 | 5 | 1 | | | | | | |
| 28 | 4 | 6 | 030 | 137 | 06 | 1 | 13 | 16 | 98 | 02 | 0 | 1013.9 | 10 | 143 | 25 | 25.0 | 23.0 | 1 | 1 | 4 | 0 | 0 | 2 | 3 | 1 | 10 | 25.1 | -0.1 | 22 | 0 | 00 | 22 | 1 | 13 | 3 | 5 | 1 | | | | | | |
| 28 | 4 | 6 | 030 | 128 | 12 | 7 | 12 | 17 | 98 | 03 | 1 | 1012.4 | 10 | 128 | 24 | 23.7 | 23.0 | 7 | 8 | 4 | 0 | 0 | 2 | 3 | 5 | 02 | 25.1 | -1.4 | 23 | 0 | 53 | 23 | 1 | 12 | 3 | 5 | 1 | | | | | | |
| 28 | 4 | 6 | 030 | 118 | 18 | 3 | 13 | 19 | 98 | 02 | 1 | 1013.8 | 10 | 142 | 25 | 25.2 | 23.5 | 2 | 2 | 4 | 3 | 0 | 2 | 3 | 1 | 05 | 25.0 | 0.2 | 23 | 0 | 00 | 23 | 1 | 13 | 3 | 4 | 1 | | | | | | |
| 29 | 5 | 6 | 027 | 118 | 00 | 2 | 14 | 15 | 98 | 02 | 0 | 1010.6 | 10 | 110 | 25 | 25.0 | 23.2 | 1 | 1 | 4 | 3 | 0 | 1 | 4 | 5 | 12 | 25.1 | 0.1 | 22 | 0 | 00 | 22 | 1 | 13 | 3 | 5 | 1 | | | | | | |
| 29 | 5 | 6 | 017 | 115 | 06 | 2 | 13 | 18 | 98 | 02 | 0 | 1013.0 | 10 | 134 | 25 | 25.2 | 24.2 | 1 | 1 | 4 | 3 | 0 | 1 | 3 | 1 | 10 | 24.9 | 0.3 | 24 | 0 | 01 | 24 | 1 | 13 | 3 | 5 | 1 | | | | | | |
| 29 | 5 | 6 | 013 | 115 | 12 | 4 | 12 | 15 | 98 | 02 | 0 | 1010.7 | 10 | 111 | 24 | 24.4 | 22.4 | 4 | 8 | 4 | 0 | 0 | 8 | 4 | 6 | 07 | 24.7 | -0.3 | 22 | 0 | 51 | 22 | 1 | 13 | 3 | 5 | 1 | | | | | | |
| 29 | 5 | 6 | 007 | 115 | 18 | 1 | 11 | 12 | 98 | 02 | 0 | 1012.4 | 10 | 128 | 25 | 25.0 | 23.4 | 1 | 2 | 4 | 0 | 0 | 8 | 4 | 1 | 09 | 24.1 | 0.4 | 23 | 0 | 02 | 23 | 1 | 12 | 3 | 4 | 1 | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 |
| — | Y | Q | L ₃ L ₂ L ₁ | L ₀ L ₀ L ₀ | GG | N | dd | ff | VV | ww | W | — | — | PPP | TT | — | — | N _b | C _L | h | C _M | C _H | D _s | v _s | a | pp | — | — | — | 0 | T _s T _s | T _d T _d | 1 | d _w d _w | P _w | H _w | 1 | d _w d _w | P _w | H _w | — | — | — |

SHIP'S WEATHER OBSERVATIONS

NAME OF VESSEL

☐ S/S
☐ M/V

CALL SIGN

MAILING ADDRESS (*American addresses preferred*)

CHECK FORMS OR SUPPLIES REQUIRED

- ☐ SHIP'S WEATHER OBSERVATIONS, WB FORM 615-5
☐ METEOROLOGICAL RADIOTELEGRAM, WB FORM 630-9
☐ BAROGRAM, WB FORM 455-12

WEATHER MAP BASES

- ☐ N. ATLANTIC - U.S. INTERCOASTAL
☐ N. PACIFIC - U.S. INTERCOASTAL
☐ S. ATLANTIC - U.S. INTERCOASTAL
☐ S. PACIFIC - INDIAN OCEAN
☐ WEATHER SERVICE FOR MERCHANT SHIPPING
☐ ENVELOPES

INSTRUMENTS IN NEED OF SERVICE

☐ BAROMETER ☐ BAROGRAPH ☐ PSYCHROMETER

DO NOT WRITE BELOW

RECEIVED (*Weather Bureau Office*)ACTION TAKEN (*Check one*)

- ☐ SUPPLIES FURNISHED AS MARKED X ☐ ACKNOWLEDGED
☐ ALL ACTION REFERRED TO CENTRAL OFFICE

DATE ACTION TAKEN

NAME OF VESSEL
☐ S/S
☐ M/V

COUNTRY OF REGISTRY

MONTH
June 19 *67*

NAME OF CAPTAIN

CALL SIGN

BAROMETER NO.
2114

WB FORM 615-5
(1-64)

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

SHIP'S WEATHER OBSERVATIONS

Check (✓)
TEMPERATURES (COLS. 16-18, 28-30, 32-33):
☒ °C ☐ °F

INSTRUCTIONS
1. Begin a new sheet:
a. For the first observation of a new month.
b. At the beginning of each voyage.
c. Upon sailing from one ocean to another.
d. Upon sailing from one ocean to another.
2. Fill in the blanks on each page of the form. (Name of vessel, barometer number, etc.)
3. Enter the coded synoptic (0000, 0600, 1200, 1800 G.C.T.) or special weather observations in columns 1 through 44.
4. At end of each voyage, remove all forms with completed observations and mail in the postage-free envelopes provided.
5. Radio transmission—Copy coded data for radio transmission from the unshaded numbered groups of columns. Each code group consists of five figures with a slant (/) indicating missing data. Omit code group 8 and 9 in message if no data are available.
Code the message in accordance with the "International Weather Code for Ships."

| DAY OF MONTH (G.C.T.) | DAY OF WEEK | POSITION OF SHIP | | | TIME (Nearest hour 00-23) (G.C.T.) | TOTAL CLOUD AMT. (Coded) (0-9) | WIND | | VISI-BILITY (Coded) (90-99) | WEATHER | | PRESSURE | | AIR TEMP. (Round-ed) | TEMPERA-TURE | | CLOUDS (Coded) | | | | | 3-HOUR PRESSURE TENDENCY (0-9) AMOUNT OF CHANGE (mb. and tenths) | TEMPERATURE | | | DIFF. AIR-SEA (Coded) | DEW POINT (Round-ed) | WAVES (Make 2 entries if 2nd pattern observed) | | | | REMARKS (Enter time of wind shifts, frontal passages, beginning and ending of precipitation, coded ice data, waves over 30½ ft., etc.) | CHECK (✓) IF SENT BY RADIO | INITIALS | | | | | | | | | |
|--------------------------|-------------|-----------------------|--|--|--|--------------------------------------|----------------------------------|--|-----------------------------------|--------------------------------|--------------------------|---|---|-------------------------|----------------------------------|----------------------------------|---------------------|------------------------------|---------------------|------------------------------|------------------------------|---|-----------------------------------|---|------------------------------|--------------------------|-------------------------|--|----------------------|-------------------|-------------------------------|---|----------------------------|-------------------------------|----------------|----------------|----|-------------------------------|----------------|----------------|----|----|----|
| | | OCT-ANT (0-3, 5-8) | LATITUDE (Degrees and tenths) | LONGI-TUDE (Degrees and tenths) | | | DI-REC-TION (True) (00-36) | SPEED (True-Knots) EST. <input type="checkbox"/> MEAS <input type="checkbox"/> | | PRES-ENT (Coded) (00-99) | PAST (Coded) (0-9) | CORREC-TION BAROME-TER AS READ (in., mb., or mm.) | DATE COMPARED BAROMETER CORRECTED (mb.) | | DRY BULB (Degrees and tenths) | WET BULB (Degrees and tenths) | AMOUNT OF LOW CLOUD | TYPE C _L (0-9) | HEIGHT OF LOW CLOUD | TYPE C _M (0-9) | TYPE C _H (0-9) | | SEA WATER (Degrees and tenths) | DIFF. AIR-SEA (-if air colder than sea) (Whole degrees) | DEW POINT (Whole degrees) | | | SEA INDICATOR (00-36) (Coded) | DIRECTION (Coded) | PERIOD (Coded) | HEIGHT (Coded) | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 |
| — | Y | Q | L ₀ L ₀ L ₀ | L ₀ L ₀ L ₀ | GG | N | dd | ff | VV | ww | W | — | — | PPP | TT | — | — | N _b | C _L | h | C _M | C _H | D _S | vs | a | pp | — | — | — | 0 | T _S T _S | T _d T _d | 1 | d _w d _w | P _w | H _w | 1 | d _w d _w | P _w | H _w | — | — | — |
| 30 | 6 | 1 | 000 | 115 | 00 | 2 | 12 | 13 | 99 | 02 | 0 | 1009.0 | 10 | 094 | 25 | 25.0 | 23.5 | 0 | 0 | 9 | 0 | 2 | 3 | 6 | 15 | 25.0 | 0.0 | 23 | 0 | 00 | 23 | 1 | 12 | 3 | 4 | 1 | | | | | | | |
| 30 | 6 | 1 | 006 | 114 | 06 | 1 | 13 | 13 | 98 | 02 | 0 | 1011.5 | 10 | 119 | 25 | 24.5 | 23.5 | 0 | 0 | 9 | 0 | 2 | 8 | 21 | 10 | 24.1 | +0.4 | 23 | 0 | 01 | 23 | 1 | 13 | 3 | 4 | 1 | | | | | | | |
| 30 | 6 | 1 | 011 | 115 | 12 | 5 | 13 | 14 | 98 | 03 | 0 | 1010.0 | 10 | 104 | 24 | 24.0 | 22.7 | 5 | 2 | 4 | 0 | 0 | 8 | 35 | 02 | 24.3 | 0.3 | 24 | 0 | 01 | 24 | 1 | 13 | 3 | 4 | 1 | | | | | | | |
| 30 | 6 | 1 | 021 | 115 | 18 | 3 | 13 | 14 | 98 | 02 | 1 | 102.0 | 10 | 124 | 25 | 24.8 | 23.0 | 3 | 2 | 4 | 0 | 0 | 8 | 40 | 02 | 24.5 | 0.3 | 22 | 0 | 01 | 22 | 1 | 13 | 3 | 4 | 1 | | | | | | | |
| 30 | 6 | 1 | 025 | 115 | 23 00 | 2 | 15 | 13 | 95 | 02 | 0 | 1009.0 | 10 | 094 | 25 | 25.0 | 23.6 | 2 | 2 | 4 | 3 | 0 | 8 | 46 | 20 | 24.6 | 0.4 | 23 | 0 | 01 | 23 | 1 | 15 | 3 | 4 | 1 | | | | | | | |
| | | | | | 06 | | | | | | | | | | | | | | | | | | | | | | | | 0 | | | 1 | | | | | | | | | | | |
| | | | | | 12 | | | | | | | | | | | | | | | | | | | | | | | | 0 | | | 1 | | | | | | | | | | | |
| | | | | | 18 | | | | | | | | | | | | | | | | | | | | | | | | 0 | | | 1 | | | | | | | | | | | |
| | | | | | 00 | | | | | | | | | | | | | | | | | | | | | | | | 0 | | | 1 | | | | | | | | | | | |
| | | | | | 06 | | | | | | | | | | | | | | | | | | | | | | | | 0 | | | 1 | | | | | | | | | | | |
| | | | | | 12 | | | | | | | | | | | | | | | | | | | | | | | | 0 | | | 1 | | | | | | | | | | | |
| | | | | | 18 | | | | | | | | | | | | | | | | | | | | | | | | 0 | | | 1 | | | | | | | | | | | |
| | | | | | 00 | | | | | | | | | | | | | | | | | | | | | | | | 0 | | | 1 | | | | | | | | | | | |
| | | | | | 06 | | | | | | | | | | | | | | | | | | | | | | | | 0 | | | 1 | | | | | | | | | | | |
| | | | | | 12 | | | | | | | | | | | | | | | | | | | | | | | | 0 | | | 1 | | | | | | | | | | | |
| | | | | | 18 | | | | | | | | | | | | | | | | | | | | | | | | 0 | | | 1 | | | | | | | | | | | |
| | | | | | 00 | | | | | | | | | | | | | | | | | | | | | | | | 0 | | | 1 | | | | | | | | | | | |
| | | | | | 06 | | | | | | | | | | | | | | | | | | | | | | | | 0 | | | 1 | | | | | | | | | | | |
| | | | | | 12 | | | | | | | | | | | | | | | | | | | | | | | | 0 | | | 1 | | | | | | | | | | | |
| | | | | | 18 | | | | | | | | | | | | | | | | | | | | | | | | 0 | | | 1 | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 |
| — | Y | Q | L ₀ L ₀ L ₀ | L ₀ L ₀ L ₀ | GG | N | dd | ff | VV | ww | W | — | — | PPP | TT | — | — | N _b | C _L | h | C _M | C _H | D _S | vs | a | pp | — | — | — | 0 | T _S T _S | T _d T _d | 1 | d _w d _w | P _w | H _w | 1 | d _w d _w | P _w | H _w | — | — | — |

SHIP'S WEATHER OBSERVATIONS

NAME OF VESSEL

- ☐ S/S
☐ M/V

CALL SIGN

MAILING ADDRESS (*American addresses preferred*)

CHECK FORMS OR SUPPLIES REQUIRED

- ☐ SHIP'S WEATHER OBSERVATIONS, WB FORM 615-5
☐ METEOROLOGICAL RADIOTELEGRAM, WB FORM 630-9
☐ BAROGRAM, WB FORM 455-12

WEATHER MAP BASES

- ☐ N. ATLANTIC - U.S. INTERCOASTAL
☐ N. PACIFIC - U.S. INTERCOASTAL
☐ S. ATLANTIC - U.S. INTERCOASTAL
☐ S. PACIFIC - INDIAN OCEAN
☐ WEATHER SERVICE FOR MERCHANT SHIPPING
☐ ENVELOPES

INSTRUMENTS IN NEED OF SERVICE

- ☐ BAROMETER ☐ BAROGRAPH ☐ PSYCHROMETER

DO NOT WRITE BELOW

RECEIVED (*Weather Bureau Office*)

ACTION TAKEN (*Check one*)

- ☐ SUPPLIES FURNISHED AS MARKED X ☐ ACKNOWLEDGED
☐ ALL ACTION REFERRED TO CENTRAL OFFICE

DATE ACTION TAKEN

NAME OF VESSEL

☐ S/S
☐ M/V

COUNTRY OF REGISTRY

MONTH

July 1967

NAME OF CAPTAIN

FROM

TO

WB FORM 615-5
(1-64)

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

SHIP'S WEATHER OBSERVATIONS

Check (✓)
TEMPERATURES (COLS. 16-18, 28-30, 32-33):

☒ °C
☐ °F

INSTRUCTIONS

1. Begin a new sheet:
a. For the first observation of a new month.
b. At the beginning of each voyage.
c. Upon sailing from one ocean to another.
d. Upon sailing from one ocean to another.

2. Fill in the blanks on each page of the form. (Name of vessel, barometer number, etc.)

3. Enter the coded synoptic (0000, 0600, 1200, 1800 G.C.T.) or special weather observations in columns 1 through 44.

Code the message in accordance with the "International Weather Code for Ships."
4. At end of each voyage, remove all forms with completed observations and mail in the postage-free envelopes provided.
5. Radio transmission—Copy coded data for radio transmission from the unshaded numbered groups of columns. Each code group consists of five figures with a slant (/) indicating missing data. Omit code group 8 and 9 in message if no data are available.

| DAY OF MONTH (G.C.T.) | DAY OF WEEK | POSITION OF SHIP | | | TIME (Nearest hour 00-23) (G.C.T.) | TOTAL CLOUD AMT. (Coded) (0-9) | WIND | | VISIBILITY (Coded) (00-99) | WEATHER | | PRESSURE | | AIR TEMP. (Round- ed) | TEMPERATURE | | CLOUDS (Coded) | | | | COURSE OF SHIP (0-9) | SPEED OF SHIP (0-9) | 3-HOUR PRESSURE TENDENCY (0-9) | TEMPERATURE | | | DIFF. AIR-SEA (Coded) | DEW POINT (Round- ed) | WAVES (Make 2 entries if 2nd pattern observed) | | | | | | REMARKS (Enter time of wind shifts, frontal passages, beginning and ending of precipitation, coded ice data, waves over 30½ ft., etc.) | CHECK (✓) IF SENT BY RADIO | INITIALS | | | | | | |
|--------------------------|-------------|-----------------------|--|--|--|--------------------------------------|------------------------------------|--|----------------------------------|---------------------------------|--------------------------|---|---|--------------------------|----------------------------------|----------------------------------|---------------------|------------------------------|---------------------|------------------------------|------------------------------|------------------------|-----------------------------------|--------------------------------------|-----------------------------------|--|------------------------------|--------------------------|--|---|---|-------------------------------|----|-------------------------------|---|----------------------------|----------|-------------------------------|----------------|----------------|----|----|----|
| | | OCT-ANT (0-3, 5-8) | LATITUDE (Degrees and tenths) | LONGI- TUDE (Degrees and tenths) | | | DI- REC- TION (True) (00-36) | SPEED (True knots) EST. <input type="checkbox"/> MEAS. <input checked="" type="checkbox"/> | | PRES- ENT (Coded) (00-99) | PAST (Coded) (0-9) | CORREC- TION 10.4 BAROMETER AS READ (in., mb., or mm.) | DATE COMPARED 6-8-67 BAROMETER CORRECTED (mb.) | | DRY BULB (Degrees and tenths) | WET BULB (Degrees and tenths) | AMOUNT OF LOW CLOUD | TYPE C _L (0-9) | HEIGHT OF LOW CLOUD | TYPE C _M (0-9) | TYPE C _H (0-9) | | | AMOUNT OF CHANGE (mb. and tenths) | SEA WATER (Degrees and tenths) | DIFF. AIR-SEA (-if air colder than sea) | DEW POINT (Whole degrees) | | INDICATOR | SEA INDICATOR DIRECTION PERIOD HEIGHT | SWELL INDICATOR DIRECTION PERIOD HEIGHT | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 |
| — | Y | Q | L ₁ L ₂ L ₃ | L ₄ L ₅ L ₆ | GG | N | dd | ff | VV | ww | W | — | — | PPP | TT | — | — | N _b | C _L | h | C _M | C _H | D _S | V _S | a | pp | — | — | — | 0 | T _S T _s | T _d T _d | 1 | d _w d _w | P _w | H _w | 1 | d _w d _w | P _w | H _w | — | — | — |
| | | | | | 00 | | | | | | | | | | | | | | | | | | | | | | | | 0 | | | 1 | | | 1 | | | | | | | | |
| 1 | 7 | 1 | 035 | 117 | 06 | 6 | 16 | 08 | 98 | 02 | 1 | 1012.2 | 10 | 126 | 25 | 25.0 | 24.0 | 6 | 2 | 4 | 0 | 0 | 8 | 3 | 1 | 16 | 25.5 | -0.5 | 24 | 0 | 51 | 24 | 1 | 16 | 3 | 4 | 1 | | | | | | |
| 1 | 7 | 1 | 038 | 116 | 12 | 8 | 18 | 14 | 98 | 02 | 2 | 1010.2 | 10 | 106 | 25 | 25.0 | 23.4 | 8 | 8 | 4 | 1 | 1 | 8 | 4 | 6 | 06 | 25.7 | -0.7 | 23 | 0 | 51 | 23 | 1 | 17 | 2 | 3 | 1 | | | | | | |
| 1 | 7 | 1 | 049 | 116 | 18 | 3 | 17 | 10 | 98 | 02 | 1 | 1011.8 | 10 | 122 | 26 | 26.4 | 25.6 | 2 | 2 | 4 | 3 | 0 | 8 | 4 | 0 | 03 | 26.5 | -0.1 | 25 | 0 | 00 | 25 | 1 | 17 | 2 | 3 | 1 | | | | | | |
| 1 | 7 | 1 | 053 | 117 | 00 | 6 | 17 | 15 | 98 | 03 | 1 | 1009.4 | 10 | 098 | 27 | 27.0 | 25.0 | 6 | 8 | 4 | 0 | 0 | 8 | 3 | 6 | 10 | 27.0 | 0.0 | 24 | 0 | 00 | 24 | 1 | 17 | 2 | 3 | 1 | | | | | | |
| 2 | 1 | 1 | 064 | 115 | 06 | 8 | 18 | 10 | 98 | 02 | 2 | 1012.4 | 10 | 124 | 27 | 26.5 | 25.0 | 8 | 8 | 4 | 1 | 1 | 8 | 3 | 1 | 10 | 27.2 | -0.7 | 24 | 0 | 51 | 24 | 1 | 18 | 2 | 3 | 1 | | | | | | |
| 2 | 1 | 1 | 070 | 116 | 12 | 8 | 19 | 12 | 97 | 81 | 8 | 1010.1 | 10 | 105 | 24 | 24.3 | 24.3 | 8 | 8 | 3 | 1 | 1 | 8 | 3 | 1 | 06 | 27.6 | -3.3 | 24 | 0 | 57 | 24 | 1 | 19 | 2 | 3 | 1 | | | | | | |
| 2 | 1 | 1 | 080 | 112 | 18 | 7 | 22 | 06 | 98 | 15 | 8 | 1012.1 | 10 | 125 | 27 | 27.1 | 26.1 | 4 | 2 | 4 | 6 | 2 | 8 | 3 | 1 | 05 | 27.5 | -0.4 | 26 | 0 | 51 | 26 | 1 | 22 | 2 | 2 | 1 | | | | | | |
| 3 | 2 | 1 | 084 | 113 | 00 | 8 | 20 | 08 | 97 | 81 | 8 | 1009.8 | 10 | 102 | 26 | 25.5 | 25.5 | 8 | 2 | 3 | 1 | 1 | 8 | 3 | 6 | 12 | 28.0 | -2.5 | 26 | 0 | 55 | 26 | 1 | 21 | 2 | 2 | 1 | | | | | | |
| 3 | 2 | 1 | 094 | 114 | 06 | 5 | 18 | 12 | 98 | 01 | 8 | 1011.5 | 10 | 119 | 26 | 25.7 | 24.7 | 5 | 2 | 4 | 0 | 0 | 8 | 3 | 0 | 00 | 27.8 | -2.1 | 24 | 0 | 54 | 24 | 1 | 18 | 2 | 2 | 1 | | | | | | |
| 3 | 2 | 1 | 099 | 115 | 12 | 5 | 24 | 11 | 98 | 02 | 1 | 1009.2 | 10 | 096 | 27 | 26.6 | 25.8 | 5 | 2 | 4 | 0 | 0 | 8 | 3 | 5 | 12 | 27.9 | -1.3 | 26 | 0 | 53 | 26 | 1 | 22 | 2 | 2 | 1 | | | | | | |
| 3 | 2 | 1 | 105 | 114 | 18 | 8 | 00 | 00 | 98 | 02 | 1 | 1011.4 | 10 | 118 | 27 | 27.4 | 24.2 | 2 | 2 | 4 | 7 | 1 | 8 | 3 | 1 | 10 | 28.1 | -0.7 | 23 | 0 | 51 | 23 | 1 | 19 | 1 | 0 | 1 | 13 | 3 | 2 | | | |
| 3 | 2 | 1 | 113 | 114 | 00 | 6 | 17 | 12 | 98 | 02 | 2 | 1009.2 | 10 | 096 | 27 | 27.3 | 26.0 | 6 | 2 | 4 | 0 | 0 | 8 | 3 | 7 | 19 | 28.3 | -1.0 | 26 | 0 | 52 | 26 | 1 | 17 | 2 | 2 | 1 | 13 | 3 | 2 | | | |
| 4 | 3 | 1 | 122 | 115 | 06 | 2 | 15 | 08 | 98 | 01 | 1 | 1011.3 | 10 | 117 | 27 | 27.0 | 25.7 | 2 | 2 | 4 | 0 | 0 | 8 | 3 | 1 | 10 | 28.2 | -1.2 | 25 | 0 | 52 | 25 | 1 | 15 | 2 | 2 | 1 | | | | | | |
| 4 | 3 | 1 | 125 | 112 | 12 | 1 | 16 | 08 | 98 | 02 | 0 | 1010.2 | 10 | 106 | 26 | 26.3 | 24.9 | 1 | 1 | 4 | 0 | 0 | 1 | 3 | 5 | 03 | 28.2 | -1.9 | 25 | 0 | 54 | 25 | 1 | 16 | 2 | 2 | 1 | | | | | | |
| 4 | 3 | 1 | 132 | 104 | 18 | 1 | 13 | 06 | 98 | 02 | 0 | 1012.4 | 10 | 128 | 28 | 27.8 | 25.8 | 1 | 1 | 4 | 0 | 5 | 1 | 3 | 2 | 12 | 28.1 | -0.3 | 25 | 0 | 51 | 25 | 1 | 14 | 2 | 1 | 1 | | | | | | |
| 4 | 3 | 1 | 134 | 103 | 00 | 3 | 17 | 06 | 98 | 25 | 8 | 1010.8 | 10 | 112 | 28 | 27.6 | 25.2 | 3 | 2 | 4 | 0 | 0 | 1 | 3 | 7 | 13 | 28.4 | -0.8 | 24 | 0 | 52 | 24 | 1 | 16 | 2 | 2 | 1 | | | | | | |
| 5 | 4 | 1 | 141 | 094 | 06 | 1 | 15 | 04 | 98 | 01 | 1 | 1013.5 | 10 | 139 | 27 | 26.5 | 25.4 | 1 | 1 | 4 | 0 | 0 | 1 | 3 | 2 | 12 | 28.1 | -1.6 | 25 | 0 | 53 | 25 | 1 | 16 | 2 | 2 | 1 | | | | | | |
| 5 | 4 | 1 | 143 | 092 | 12 | 1 | 10 | 06 | 98 | 02 | 0 | 1011.4 | 10 | 118 | 27 | 27.4 | 26.0 | 1 | 1 | 4 | 0 | 0 | 1 | 3 | 6 | 02 | 27.8 | -0.4 | 26 | 0 | 51 | 26 | 1 | 12 | 2 | 1 | 1 | | | | | | |
| 5 | 4 | 1 | 148 | 086 | 18 | 6 | 07 | 05 | 98 | 02 | 1 | 1014.0 | 10 | 144 | 28 | 28.4 | 27.8 | 2 | 1 | 4 | 0 | 8 | 1 | 4 | 1 | 09 | 28.7 | -0.3 | 27 | 0 | 51 | 27 | 1 | 09 | 2 | 1 | 1 | 16 | 3 | 2 | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 |
| — | Y | Q | L ₁ L ₂ L ₃ | L ₄ L ₅ L ₆ | GG | N | dd | ff | VV | ww | W | — | — | PPP | TT | — | — | N _b | C _L | h | C _M | C _H | D _S | V _S | a | pp | — | — | — | 0 | T _S T _s | T _d T _d | 1 | d _w d _w | P _w | H _w | 1 | d _w d _w | P _w | H _w | — | — | — |

SHIP'S WEATHER OBSERVATIONS

NAME OF VESSEL

- ☐ S/S
☐ M/V

CALL SIGN

MAILING ADDRESS (*American addresses preferred*)

CHECK FORMS OR SUPPLIES REQUIRED

- ☐ SHIP'S WEATHER OBSERVATIONS, WB FORM 615-5
☐ METEOROLOGICAL RADIOTELEGRAM, WB FORM 630-9
☐ BAROGRAM, WB FORM 455-12

WEATHER MAP BASES

- ☐ N. ATLANTIC - U.S. INTERCOASTAL
☐ N. PACIFIC - U.S. INTERCOASTAL
☐ S. ATLANTIC - U.S. INTERCOASTAL
☐ S. PACIFIC - INDIAN OCEAN
☐ WEATHER SERVICE FOR MERCHANT SHIPPING
☐ ENVELOPES

INSTRUMENTS IN NEED OF SERVICE

- ☐ BAROMETER ☐ BAROGRAPH ☐ PSYCHROMETER

DO NOT WRITE BELOW

RECEIVED (*Weather Bureau Office*)

ACTION TAKEN (*Check one*)

- ☐ SUPPLIES FURNISHED AS MARKED X ☐ ACKNOWLEDGED
☐ ALL ACTION REFERRED TO CENTRAL OFFICE

DATE ACTION TAKEN

| NAME OF VESSEL <input type="checkbox"/> S/S <input type="checkbox"/> M/V | | | | | NAME OF CAPTAIN | | | | | WB FORM 615-5 (1-64) | | | | | U.S. DEPARTMENT OF COMMERCE WEATHER BUREAU | | | | | INSTRUCTIONS | | | | | | | | | | | | | | | | | | | | | | | |
|--|---------------------------|------------------------|--|--|--|--------------------------------------|----------------------------------|------------------------------------|-----------------------------------|--------------------------------|--------------------------|--|------------------------------|-------------------------|---|----------------------------------|----------------------------------|---------------------|------------------------------|--|------------------------------|------------------------------|-------------------------|------------------------|-------------------------|--------------------------|-------------------------|--|-----------------------------------|--|------------------------------|----------------|-----------|-------------------------------|-------------------|---|----------------------------|-------------------------------|-------------------|----------------|----------------------|-------------------|-------------------|
| COUNTRY OF REGISTRY | | | | | CALL SIGN | | | | | VOYAGE | | | | | SHIP'S WEATHER OBSERVATIONS | | | | | 1. Begin a new sheet: a. For the first observation of a new month. b. At the beginning of each voyage. c. Upon sailing from one ocean to another. d. Upon sailing from one ocean to another. 2. Fill in the blanks on each page of the form. (Name of vessel, barometer number, etc.) 3. Enter the coded synoptic (0000, 0600, 1200, 1800 G.C.T.) or special weather observations in columns 1 through 44. Code the message in accordance with the "International Weather Code for Ships." 4. At end of each voyage, remove all forms with completed observations and mail in the postage-free envelopes provided. 5. Radio transmission—Copy coded data for radio transmission from the unshaded numbered groups of columns. Each code group consists of five figures with a slant (/) indicating missing data. Omit code group 8 and 9 in message if no data are available. | | | | | | | | | | | | | | | | | | | | | | | |
| MONTH <u>July</u> 19 <u>67</u> | | | | | BAROMETER NO. <u>2114</u> | | | | | TO | | | | | Check (✓) TEMPERATURES (COLS. 16-18, 28-30, 32-33): <input checked="" type="checkbox"/> °C <input type="checkbox"/> °F | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DAY OF MONTH (G.C.T.) | DAY OF WEEK (0-3, 5-8) | POSITION OF SHIP | | | TIME (Nearest hour 00-23) (G.C.T.) | TOTAL CLOUD AMT. (Coded) (0-9) | WIND | | VISI-BILITY (Coded) (90-99) | WEATHER | | PRESSURE | | AIR TEMP. (Round-ed) | TEMPERATURE | | CLOUDS (Coded) | | | | 3-HOUR PRESSURE TENDENCY | | TEMPERATURE | | | DIFF. AIR-SEA (Coded) | DEW POINT (Round-ed) | WAVES (Make 2 entries if 2nd pattern observed) | | | | | | | | REMARKS (Enter time of wind shifts, frontal passages, beginning and ending of precipitation, coded ice data, waves over 30½ ft., etc.) | CHECK (✓) IF SENT BY RADIO | INITIALS | | | | | |
| | | OCT. ANT (0-3, 5-8) | LATITUDE (Degrees and tenths) | LONGI-TUDE | | | DI-REC-TION (True) (00-36) | SPEED (True) (knots) MEAS | | PRES-ENT (Coded) (00-99) | PAST (Coded) (0-9) | CORREC-TION 40.4 DATE COMPARED 6/8/67 BAROMETER AS READ (in., mb., or mm.) (mb.) | BAROMETER CORRECTED (mb.) | | COATED Sea Level (mb.) | DRY BULB (Degrees and tenths) | WET BULB (Degrees and tenths) | AMOUNT OF LOW CLOUD | TYPE C _L (0-9) | HEIGHT OF LOW CLOUD (0-9) | TYPE C _M (0-9) | TYPE C _H (0-9) | COURSE OF SHIP (0-9) | SPEED OF SHIP (0-9) | CHARACTERISTIC (0-9) | | | AMOUNT OF CHANGE (mb. and tenths) | SEA WATER (Degrees and tenths) | DIFF. AIR-SEA (-if air colder than sea) | DEW POINT (Whole degrees) | INDICATOR | INDICATOR | DIRECTION (00-36) | PERIOD (Coded) | | | | HEIGHT (Coded) | INDICATOR | DIRECTION (00-36) | PERIOD (Coded) | HEIGHT (Coded) |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 |
| — | Y | Q | L ₁ L ₂ L ₃ | L ₄ L ₅ L ₆ | GG | N | dd | ff | VV | ww | W | — | — | PPP | TT | — | — | N _h | C _L | h | C _M | C _H | D _S | vs | a | pp | — | — | — | 0 | T _S | T _d | 1 | d _w d _w | P _w | H _w | 1 | d _w d _w | P _w | H _w | — | — | — |
| 5 | 4 | 1 | 153 | 084 | 23 00 | 7 | 05 | 06 | 98 | 02 | 2 | 10 12.3 | 10 | 127 | 28 | 28.2 | 24.5 | 2 | 1 | 4 | 0 | 6 | 1 | 3 | 7 | 12 | 29.1 | -1.0 | 23 | 0 | 51 | 23 | 1 | 05 | 2 | 1 | 1 | 16 | 3 | 3 | | | |
| 6 | 5 | 1 | 160 | 076 | 06 | 7 | 02 | 08 | 98 | 02 | 2 | 10 14.3 | 10 | 147 | 28 | 27.5 | 25.0 | 2 | 1 | 4 | 0 | 6 | 1 | 3 | 1 | 12 | 28.2 | -0.7 | 24 | 0 | 51 | 24 | 1 | 02 | 2 | 1 | 1 | 16 | 3 | 3 | | | |
| 6 | 5 | 1 | 164 | 072 | 12 | 8 | 06 | 11 | 98 | 80 | 8 | 10 12.4 | 10 | 128 | 24 | 24.0 | 23.8 | 8 | 2 | 4 | / | / | 3 | 6 | 10 | 28.1 | -4.1 | 24 | 0 | 58 | 24 | 1 | 06 | 2 | 1 | 1 | 16 | 4 | 3 | | | | |
| 6 | 5 | 1 | 169 | 066 | 18 | 3 | 05 | 02 | 98 | 02 | 1 | 10 13.8 | 10 | 142 | 28 | 28.0 | 26.8 | 2 | 2 | 4 | 0 | 2 | 1 | 3 | 1 | 05 | 28.7 | -0.7 | 27 | 0 | 51 | 27 | 1 | 05 | 2 | 1 | 1 | 16 | 3 | 2 | | | |
| 6 | 5 | 1 | 170 | 063 | 23 00 | 5 | 07 | 02 | 98 | 02 | 0 | 10 11.2 | 10 | 116 | 28 | 27.8 | 25.0 | 1 | 1 | 4 | 0 | 5 | 1 | 2 | 7 | 15 | 29.6 | -1.8 | 24 | 0 | 54 | 24 | 1 | 07 | 2 | 1 | 1 | | | | | | |
| 7 | 6 | 1 | 177 | 058 | 06 | 2 | 05 | 03 | 98 | 01 | 0 | 10 13.6 | 10 | 140 | 29 | 28.5 | 25.5 | 1 | 1 | 4 | 0 | 5 | 1 | 3 | 6 | 05 | 29.2 | -0.7 | 24 | 0 | 51 | 24 | 1 | 05 | 2 | 1 | 1 | | | | | | |
| 7 | 6 | 1 | 179 | 055 | 12 | 1 | 10 | 04 | 98 | 13 | 0 | 10 12.2 | 10 | 126 | 27 | 26.9 | 25.7 | 1 | 3 | 4 | 0 | 0 | 1 | 2 | 5 | 07 | 28.7 | -1.8 | 25 | 0 | 54 | 25 | 1 | 09 | 2 | 1 | 1 | | | | | | |
| 7 | 6 | 1 | 186 | 048 | 18 | 6 | 00 | 00 | 98 | 02 | 1 | 10 12.7 | 10 | 131 | 30 | 30.0 | 27.8 | 1 | 1 | 4 | 0 | 6 | 1 | 3 | 0 | 00 | 28.4 | 1.6 | 27 | 0 | 03 | 27 | 1 | 00 | 1 | 0 | 1 | | | | | | |
| | | | | | 00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | 2 | 1 | 153 | 036 | 06 | 8 | 27 | 02 | 96 | 95 | 8 | 10 14.1 | 10 | 145 | 24 | 23.8 | 23.8 | 8 | 9 | 3 | / | / | 3 | 4 | 0 | 19 | 24.4 | -1.0 | 24 | 0 | 52 | 24 | 1 | 49 | 1 | 0 | 1 | | | | | | |
| 10 | 2 | 1 | 178 | 027 | 12 | 8 | 28 | 10 | 98 | 13 | 2 | 10 12.4 | 10 | 128 | 28 | 28.0 | 25.0 | 6 | 2 | 4 | 7 | / | 3 | 4 | 3 | 11 | 25.3 | 2.7 | 24 | 0 | 05 | 24 | 1 | 28 | 2 | 1 | 1 | 49 | / | 2 | | | |
| 10 | 2 | 1 | 174 | 017 | 18 | 8 | 29 | 09 | 98 | 02 | 2 | 10 12.7 | 10 | 131 | 29 | 24.0 | 25.8 | 5 | 2 | 4 | 4 | 2 | 3 | 4 | 8 | 08 | 24.7 | 4.3 | 25 | 0 | 09 | 25 | 1 | 29 | 2 | 1 | 1 | 19 | 3 | 2 | | | |
| 10 | 2 | 1 | 168 | 005 | 23 00 | 8 | 26 | 16 | 98 | 02 | 2 | 10 10.3 | 10 | 104 | 29 | 28.8 | 26.0 | 4 | 9 | 4 | 0 | 6 | 3 | 4 | 6 | 16 | 25.0 | 3.8 | 25 | 0 | 08 | 25 | 1 | 26 | 2 | 1 | 1 | 20 | 3 | 2 | | | |
| 11 | 3 | 1 | 162 | 003 | 06 | 3 | 13 | 02 | 98 | 13 | 1 | 10 14.0 | 10 | 144 | 29 | 29.0 | 25.2 | 3 | 3 | 4 | 0 | 0 | 4 | 3 | 0 | 10 | 29.8 | -0.8 | 24 | 0 | 52 | 24 | 1 | 00 | / | 0 | 1 | | | | | | |
| 11 | 3 | 1 | 152 | 008 | 12 | 2 | 10 | 10 | 98 | 13 | 8 | 10 12.6 | 10 | 130 | 27 | 27.3 | 25.4 | 2 | 3 | 4 | 0 | 0 | 5 | 3 | 5 | 00 | 29.5 | -2.2 | 25 | 0 | 54 | 25 | 1 | 11 | 2 | 2 | 1 | | | | | | |
| 11 | 3 | 1 | 151 | 014 | 18 | 8 | 08 | 06 | 98 | 03 | 1 | 10 13.5 | 10 | 139 | 28 | 27.8 | 25.6 | 2 | 2 | 4 | 9 | 6 | 5 | 3 | 4 | 00 | 28.8 | -1.0 | 24 | 0 | 52 | 24 | 1 | 08 | 2 | 2 | 1 | | | | | | |
| 11 | 3 | 1 | 147 | 018 | 23 00 | 4 | 06 | 06 | 98 | 02 | 1 | 10 12.0 | 10 | 124 | 28 | 28.2 | 24.8 | 1 | 2 | 4 | 3 | 2 | 5 | 3 | 8 | 07 | 29.4 | -1.2 | 24 | 0 | 52 | 24 | 1 | 06 | 2 | 1 | 1 | 16 | 3 | 3 | | | |
| 12 | 4 | 1 | 142 | 023 | 06 | 2 | 19 | 02 | 98 | 02 | 0 | 10 14.7 | 10 | 151 | 27 | 27.4 | 25.0 | 2 | 1 | 4 | 0 | 0 | 5 | 3 | 2 | 17 | 28.7 | -1.3 | 24 | 0 | 53 | 24 | 1 | 00 | / | 0 | 1 | | | | | | |
| 12 | 4 | 1 | 138 | 027 | 12 | 3 | 32 | 02 | 98 | 02 | 0 | 10 12.8 | 10 | 132 | 27 | 26.7 | 25.0 | 2 | 2 | 4 | 3 | 0 | 5 | 3 | 6 | 06 | 28.6 | -1.9 | 24 | 0 | 54 | 24 | 1 | 00 | / | 0 | 1 | | | | | | |
| 12 | 4 | 1 | 132 | 032 | 18 | 8 | 21 | 05 | 98 | 25 | 8 | 10 14.6 | 10 | 150 | 28 | 28.3 | 25.4 | 8 | 9 | 4 | / | / | 5 | 3 | / | / | 28.2 | 0.1 | 25 | 0 | 00 | 25 | 1 | 00 | / | 0 | 1 | 20 | 5 | 4 | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 |
| — | Y | Q | L ₁ L ₂ L ₃ | L ₄ L ₅ L ₆ | GG | N | dd | ff | VV | ww | W | — | — | PPP | TT | — | — | N _h | C _L | h | C _M | C _H | D _S | vs | a | pp | — | — | — | 0 | T _S | T _d | 1 | d _w d _w | P _w | H _w | 1 | d _w d _w | P _w | H _w | — | — | — |

SHIP'S WEATHER OBSERVATIONS

NAME OF VESSEL

- ☐ S/S
☐ M/V

CALL SIGN

MAILING ADDRESS (*American addresses preferred*)

CHECK FORMS OR SUPPLIES REQUIRED

- ☐ SHIP'S WEATHER OBSERVATIONS, WB FORM 615-5
☐ METEOROLOGICAL RADIOTELEGRAM, WB FORM 630-9
☐ BAROGRAM, WB FORM 455-12

WEATHER MAP BASES

- ☐ N. ATLANTIC - U.S. INTERCOASTAL
☐ N. PACIFIC - U.S. INTERCOASTAL
☐ S. ATLANTIC - U.S. INTERCOASTAL
☐ S. PACIFIC - INDIAN OCEAN
☐ WEATHER SERVICE FOR MERCHANT SHIPPING
☐ ENVELOPES

INSTRUMENTS IN NEED OF SERVICE

- ☐ BAROMETER ☐ BAROGRAPH ☐ PSYCHROMETER

DO NOT WRITE BELOW

RECEIVED (*Weather Bureau Office*)

ACTION TAKEN (*Check one*)

- ☐ SUPPLIES FURNISHED AS MARKED X ☐ ACKNOWLEDGED
☐ ALL ACTION REFERRED TO CENTRAL OFFICE

DATE ACTION TAKEN

| NAME OF VESSEL <input type="checkbox"/> S/S <input type="checkbox"/> M/V | | | | | NAME OF CAPTAIN | | | | | WB FORM 615-5 (1-64) | | | | | U.S. DEPARTMENT OF COMMERCE WEATHER BUREAU | | | | | INSTRUCTIONS | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------------|------------------------|--|--|--|--------------------------------------|------------------------------------|--|------------------------------------|---------------------------------|----------------------------|------------------------------------|------------------------|--------------------------|--|----------------------------------|----------------------------------|---------------------|------------------------------|--|------------------------------|------------------------------|-------------------------|------------------------|--|---------------------------|--------------------------|--|-----------------------------------|--|-------------------------------|---|----------------------------|-------------------------------|----------------|---------------------------|-------------------|-------------------------------|----------------|---------------------------|-------------------|-------------------|----|
| COUNTRY OF REGISTRY | | | | | CALL SIGN | | | | | V O Y A G E | | | | | FROM | | | | | SHIP'S WEATHER OBSERVATIONS | | | | | | | | | | | | | | | | | | | | | | | |
| MONTH July 19 67 | | | | | BAROMETER NO. | | | | | TO | | | | | Check (✓) TEMPERATURES (COLS. 16-18, 28-30, 32-33): | | | | | <input checked="" type="checkbox"/> °C <input type="checkbox"/> °F | | | | | 1. Begin a new sheet: a. For the first observation of a new month. b. At the beginning of each voyage. c. Upon sailing from one ocean to another. d. Upon sailing from one ocean to another. 2. Fill in the blanks on each page of the form. (Name of vessel, barometer number, etc.) 3. Enter the coded synoptic (0000, 0600, 1200, 1800 G.C.T.) or special weather observations in columns 1 through 44. Code the message in accordance with the "International Weather Code for Ships." 4. At end of each voyage, remove all forms with completed observations and mail in the postage-free envelopes provided. 5. Radio transmission—Copy coded data for radio transmission from the unshaded numbered groups of columns. Each code group consists of five figures with a slant (/) indicating missing data. Omit code group 8 and 9 in message if no data are available. | | | | | | | | | | | | | | | | | | |
| DAY OF MONTH (G.C.T.) | DAY OF WEEK | POSITION OF SHIP | | | TIME (Nearest hour 00-23) (G.C.T.) | TOTAL CLOUD AMT. (Coded) (0-9) | WIND | | VISI- BILITY (Coded) (00-99) | WEATHER | | PRESSURE | | AIR TEMP. (Round- ed) | TEMPERA- TURE | | CLOUDS (Coded) | | | | 3-HOUR PRESSURE TENDENCY | | TEMPERATURE | | | DIFF. AIR- SEA (Coded) | DEW POINT (Round- ed) | WAVES (Make 2 entries if 2nd pattern observed) | | | | REMARKS (Enter time of wind shifts, frontal passages, beginning and ending of precipitation, coded ice data, waves over 30½ ft., etc.) | CHECK (✓) IF SENT BY RADIO | INITIALS | | | | | | | | | |
| | | OCT- ANT (0-3, 5-8) | LATITUDE (Degrees and tenths) | LONGI- TUDE (Degrees and tenths) | | | DI- REC- TION (True) (00-36) | SPEED (True knots) EST. MEAS (00-36) | | PRES- ENT (Coded) (00-99) | PAST (Coded) (00-99) | CORREC- TION (in., mb., or mm.) | DATE COMPARED (mm.) | | CODED Sea Level (mb.) | DRY BULB (Degrees and tenths) | WET BULB (Degrees and tenths) | AMOUNT OF LOW CLOUD | TYPE C _L (0-9) | HEIGHT OF LOW CLOUD (0-9) | TYPE C _M (0-9) | TYPE C _H (0-9) | COURSE OF SHIP (0-9) | SPEED OF SHIP (0-9) | CHARACTERISTIC (0-9) | | | AMOUNT OF CHANGE (mb. and tenths) | SEA WATER (Degrees and tenths) | DIFF. AIR-SEA (-if air colder than sea) | DEW POINT (Whole degrees) | | | | INDICATOR | SEA (00-36) (Coded) | PERIOD (Coded) | HEIGHT (Coded) | INDICATOR | SEA (00-36) (Coded) | PERIOD (Coded) | HEIGHT (Coded) | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 |
| — | Y | Q | L ₁ L ₂ L ₃ | L ₄ L ₅ L ₆ | GG | N | dd | ff | VV | ww | W | — | — | PPP | TT | — | — | N _b | C _L | h | C _M | C _H | D _S | v _S | a | pp | — | — | — | 0 | T _S T _S | T _d T _d | 1 | d _w d _w | P _w | H _w | 1 | d _w d _w | P _w | H _w | — | — | — |
| 12 | 4 | 1 | 128 | 037 | 23 00 | 8 | 07 | 12 | 98 | 80 | 8 | 1013.3 | 10 | 137 | 25 | 25.4 | 24.0 | 8 | 9 | 4 | / | / | 5 | 3 | 6 | 15 | 28.3 | -2.9 | 24 | 0 | 56 | 24 | 1 | 07 | 2 | 2 | 1 | 20 | 5 | 4 | | | |
| 13 | 5 | 1 | 121 | 043 | 06 | 2 | 04 | 06 | 98 | 01 | 8 | 1015.0 | 10 | 154 | 26 | 26.2 | 23.8 | 2 | 1 | 4 | 0 | 0 | 5 | 3 | 1 | 03 | 28.3 | -2.1 | 23 | 0 | 54 | 23 | 1 | 06 | 2 | 1 | 1 | | | | | | |
| 13 | 5 | 1 | 115 | 045 | 12 | 6 | 04 | 05 | 98 | 02 | 1 | 1013.3 | 10 | 137 | 27 | 27.0 | 24.6 | 6 | 1 | 4 | 0 | 0 | 4 | 3 | 5 | 02 | 28.2 | -1.2 | 24 | 0 | 52 | 24 | 1 | 04 | 2 | 1 | 1 | | | | | | |
| 13 | 5 | 1 | 106 | 046 | 18 | 6 | 04 | 05 | 98 | 02 | 1 | 1013.3 | 10 | 137 | 31 | 31.0 | 27.2 | 4 | 1 | 4 | 3 | 2 | 4 | 3 | 8 | 10 | 28.4 | -2.6 | 26 | 0 | 05 | 26 | 1 | 04 | 2 | 1 | 1 | | | | | | |
| 13 | 5 | 1 | 099 | 045 | 23 00 | 2 | 01 | 08 | 98 | 02 | 1 | 1011.0 | 10 | 11.4 | 28 | 27.5 | 25.8 | 1 | 2 | 4 | 0 | 1 | 4 | 3 | 7 | 17 | 28.8 | -1.3 | 25 | 0 | 53 | 25 | 1 | 02 | 2 | 1 | 1 | 25 | 4 | 3 | | | |
| 14 | 6 | 1 | 089 | 046 | 06 | 1 | 07 | 04 | 98 | 02 | 0 | 1012.6 | 10 | 13.0 | 27 | 27.4 | 25.4 | 1 | 1 | 4 | 0 | 0 | 4 | 3 | 2 | 02 | 28.3 | -0.9 | 25 | 0 | 52 | 25 | 1 | 05 | 2 | 1 | 1 | | | | | | |
| 14 | 6 | 1 | 082 | 045 | 12 | 1 | 08 | 09 | 98 | 02 | 0 | 1011.6 | 10 | 12.0 | 27 | 27.3 | 25.0 | 1 | 1 | 4 | 0 | 0 | 4 | 3 | 6 | 92 | 28.3 | -1.0 | 24 | 0 | 52 | 24 | 1 | 07 | 2 | 1 | 1 | | | | | | |
| 14 | 6 | 1 | 075 | 045 | 18 | 1 | 08 | 05 | 98 | 02 | 0 | 1013.3 | 10 | 13.7 | 29 | 29.2 | 25.6 | 1 | 1 | 4 | 0 | 0 | 4 | 3 | 1 | 09 | 28.3 | 0.9 | 24 | 0 | 02 | 24 | 1 | 08 | 2 | 1 | 1 | 49 | / | 3 | | | |
| 14 | 6 | 1 | 069 | 045 | 23 00 | 3 | 15 | 06 | 98 | 02 | 0 | 1011.1 | 10 | 11.5 | 27 | 27.3 | 25.0 | 3 | 2 | 4 | 0 | 0 | 4 | 3 | 6 | 12 | 28.8 | -1.5 | 24 | 0 | 53 | 24 | 1 | 15 | 2 | 1 | 1 | 49 | / | 3 | | | |
| 15 | 7 | 1 | 061 | 045 | 06 | 2 | 13 | 05 | 98 | 02 | 0 | 1013.0 | 10 | 13.4 | 26 | 26.0 | 24.0 | 2 | 1 | 4 | 0 | 0 | 4 | 3 | 1 | 10 | 27.7 | -1.7 | 23 | 0 | 53 | 23 | 1 | 13 | 2 | 1 | 1 | 18 | / | 3 | | | |
| 15 | 7 | 1 | 054 | 045 | 12 | 3 | 16 | 08 | 98 | 02 | 0 | 1011.2 | 10 | 11.6 | 26 | 25.9 | 24.0 | 3 | 1 | 4 | 0 | 0 | 4 | 3 | 5 | 02 | 27.6 | -1.8 | 23 | 0 | 54 | 23 | 1 | 16 | 2 | 2 | 1 | | | | | | |
| 15 | 7 | 1 | 047 | 045 | 18 | 8 | 15 | 09 | 98 | 03 | 1 | 1013.2 | 10 | 13.6 | 26 | 26.0 | 24.0 | 3 | 2 | 4 | 7 | / | 4 | 3 | 4 | 00 | 27.4 | -1.4 | 23 | 0 | 53 | 23 | 1 | 15 | 2 | 2 | 1 | | | | | | |
| 15 | 7 | 1 | 042 | 044 | 23 00 | 8 | 14 | 15 | 97 | 80 | 8 | 1010.8 | 10 | 11.2 | 24 | 24.0 | 23.4 | 8 | 2 | 4 | / | / | 4 | 3 | 7 | 12 | 27.0 | -3.0 | 23 | 0 | 56 | 23 | 1 | 15 | 3 | 4 | 1 | | | | | | |
| 16 | 1 | 1 | 034 | 045 | 06 | 8 | 15 | 19 | 98 | 02 | 8 | 1013.2 | 10 | 13.6 | 24 | 23.8 | 22.3 | 4 | 2 | 4 | 7 | / | 4 | 3 | 2 | 10 | 26.3 | -2.5 | 22 | 0 | 55 | 22 | 1 | 15 | 3 | 5 | 1 | | | | | | |
| 16 | 1 | 1 | 028 | 045 | 12 | 8 | 13 | 18 | 98 | 02 | 8 | 1012.2 | 10 | 12.6 | 25 | 25.0 | 22.0 | 8 | 2 | 4 | / | / | 4 | 3 | 5 | 00 | 25.6 | -0.6 | 21 | 0 | 51 | 21 | 1 | 13 | 3 | 5 | 1 | | | | | | |
| 16 | 1 | 1 | 023 | 045 | 18 | 7 | 14 | 15 | 98 | 02 | 2 | 1014.2 | 10 | 14.6 | 25 | 25.0 | 21.2 | 7 | 8 | 4 | / | / | 4 | 3 | 0 | 00 | 25.9 | -0.9 | 19 | 0 | 52 | 19 | 1 | 14 | 3 | 5 | 1 | | | | | | |
| 16 | 1 | 1 | 017 | 046 | 23 00 | 6 | 14 | 15 | 98 | 02 | 2 | 1011.6 | 10 | 12.0 | 25 | 25.3 | 21.7 | 6 | 2 | 4 | 0 | 0 | 4 | 3 | 6 | 13 | 26.1 | -0.8 | 20 | 0 | 52 | 20 | 1 | 14 | 3 | 5 | 1 | | | | | | |
| 17 | 2 | 1 | 009 | 046 | 06 | 4 | 10 | 10 | 99 | 02 | 1 | 1015.0 | 10 | 15.4 | 23 | 23.2 | 21.0 | 4 | 8 | 4 | 0 | 0 | 4 | 3 | 0 | 14 | 25.3 | -2.1 | 20 | 0 | 54 | 20 | 1 | 12 | 3 | 4 | 1 | | | | | | |
| 17 | 2 | 1 | 003 | 045 | 12 | 3 | 11 | 13 | 98 | 02 | 0 | 1014.0 | 10 | 14.4 | 22 | 22.0 | 20.4 | 3 | 1 | 4 | 0 | 0 | 4 | 3 | 3 | 03 | 23.6 | -1.6 | 20 | 0 | 53 | 20 | 1 | 12 | 2 | 3 | 1 | | | | | | |
| | | | | | 18 | | | | | | | | | | | | | | | | | | | | | | | | | 0 | | | 1 | | | 1 | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 |
| — | Y | Q | L ₁ L ₂ L ₃ | L ₄ L ₅ L ₆ | GG | N | dd | ff | VV | ww | W | — | — | PPP | TT | — | — | N _b | C _L | h | C _M | C _H | D _S | v _S | a | pp | — | — | — | 0 | T _S T _S | T _d T _d | 1 | d _w d _w | P _w | H _w | 1 | d _w d _w | P _w | H _w | — | — | — |

| | | | |
|--|--|---|--|
| WB FORM 615-5 (1-64) | | U.S. DEPARTMENT OF COMMERCE WEATHER BUREAU | |
| SHIP'S WEATHER OBSERVATIONS | | | |
| NAME OF VESSEL <input type="checkbox"/> S/S <input type="checkbox"/> M/V | | CALL SIGN | |
| MAILING ADDRESS (<i>American addresses preferred</i>) | | | |
| CHECK FORMS OR SUPPLIES REQUIRED <input type="checkbox"/> SHIP'S WEATHER OBSERVATIONS, WB FORM 615-5 <input type="checkbox"/> METEOROLOGICAL RADIOTELEGRAM, WB FORM 630-9 <input type="checkbox"/> BAROGRAM, WB FORM 455-12 WEATHER MAP BASES <input type="checkbox"/> N. ATLANTIC - U.S. INTERCOASTAL <input type="checkbox"/> N. PACIFIC - U.S. INTERCOASTAL <input type="checkbox"/> S. ATLANTIC - U.S. INTERCOASTAL <input type="checkbox"/> S. PACIFIC - INDIAN OCEAN <input type="checkbox"/> WEATHER SERVICE FOR MERCHANT SHIPPING <input type="checkbox"/> ENVELOPES | | | |
| INSTRUMENTS IN NEED OF SERVICE <input type="checkbox"/> BAROMETER <input type="checkbox"/> BAROGRAPH <input type="checkbox"/> PSYCHROMETER | | | |
| DO NOT WRITE BELOW | | | |
| RECEIVED (<i>Weather Bureau Office</i>) | | | |
| ACTION TAKEN (<i>Check one</i>) <input type="checkbox"/> SUPPLIES FURNISHED AS MARKED X <input type="checkbox"/> ACKNOWLEDGED <input type="checkbox"/> ALL ACTION REFERRED TO CENTRAL OFFICE | | | |
| DATE ACTION TAKEN | | | |

NAME OF VESSEL

☐ S/S
☐ M/V

COUNTRY OF REGISTRY

MONTH
19

NAME OF CAPTAIN

CALL SIGN

BAROMETER NO.

VOYAGE
FROM
TO

Check (✓)
TEMPERATURES (COLS. 16-18, 28-30, 32-33):
24°C ☐ °F

WB FORM 615-5
(1-64)

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

SHIP'S WEATHER OBSERVATIONS

1. Begin a new sheet:
a. For the first observation of a new month.
b. At the beginning of each voyage.
c. Upon sailing from one octant to another.
d. Upon sailing from one ocean to another.
2. Fill in the blanks on each page of the form. (Name of vessel, barometer number, etc.)
3. Enter the coded synoptic (0000, 0600, 1200, 1800 G.C.T.) or special weather observations in columns 1 through 44.

4. At end of each voyage, remove all forms with completed observations and mail in the postage-free envelopes provided.

5. Radio transmission—Copy coded data for radio transmission from the unshaded numbered groups of columns. Each code group consists of five figures with a slant (/) indicating missing data. Omit code group 8 and 9 in message if no data are available.

Code the message in accordance with the "International Weather Code for Ships."

| DAY OF MONTH (G.C.T.) | DAY OF WEEK | POSITION OF SHIP | | | TIME (Nearest hour 00-23) (G.C.T.) | TOTAL CLOUD AMT. (Coded) (0-9) | WIND | | VISI- BILITY (Coded) (90-99) | WEATHER | | PRESSURE | | AIR TEMP. (Round- ed) | TEMPERA- TURE | | CLOUDS (Coded) | | | | | COURSE OF SHIP (0-9) | SPEED OF SHIP (0-9) | 3-HOUR PRESSURE TENDENCY (0-9) | TEMPERATURE | | | DIFF. AIR-SEA (Coded) | DEW POINT (Round- ed) | WAVES (Make 2 entries if 2nd pattern observed) | | | | | | | | REMARKS (Enter time of wind shifts, frontal passages, beginning and ending of precipitation, coded ice data, waves over 30½ ft., etc.) | CHECK (✓) IF SENT BY RADIO | INITIALS | | | |
|--------------------------|-------------|------------------------|--|--|--|--------------------------------------|------------------------------------|---|------------------------------------|---------------------------------|--------------------------|---|---|--------------------------|----------------------------------|----------------------------------|---------------------|------------------------------|------------------------------|------------------------------|------------------------------|-------------------------|------------------------|-----------------------------------|--------------------------------------|-----------------------------------|---|------------------------------|--------------------------|--|-------------------------------|-------------------------------|-------------------|-------------------------------|----------------|----------------|----|---|----------------------------|----------------|----|----|----|
| | | OCT- ANT (0-3, 5-8) | LATITUDE (Degrees and tenths) | LONGI- TUDE (Degrees and tenths) | | | DI- REC- TION (True) (00-36) | SPEED (True knots) EST. <input type="checkbox"/> MEAS. | | PRES- ENT (Coded) (00-99) | PAST (Coded) (0-9) | CORREC- TION +0.4 BAROMETER AS READ (in., mb., or mm.) | DATE COMPARED 6/5/67 BAROMETER CORRECTED (mb.) | | DRY BULB (Degrees and tenths) | WET BULB (Degrees and tenths) | AMOUNT OF LOW CLOUD | TYPE C _L (0-9) | HEIGHT OF LOW CLOUD (0-9) | TYPE C _M (0-9) | TYPE C _H (0-9) | | | CHARACTERISTIC (0-9) | AMOUNT OF CHANGE (mb. and tenths) | SEA WATER (Degrees and tenths) | DIFF. AIR-SEA (-if air colder than sea) (Whole degrees) | DEW POINT (Whole degrees) | | SEA INDICATOR (00-36) | DIRECTION (Coded) | PERIOD (Coded) | HEIGHT (Coded) | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 |
| — | Y | Q | L ₁ L ₂ L ₃ | L ₄ L ₅ L ₆ | GG | N | dd | ff | VV | ww | W | — | — | PPP | TT | — | — | N _b | C _L | h | C _M | C _H | D _S | vs | a | pp | — | — | — | 0 | T _S T _s | T _d T _d | 1 | d _w d _w | P _w | H _w | 1 | d _w d _w | P _w | H _w | — | — | |
| | | | | | 00 | | | | | | | | | | | | | | | | | | | | | | | | | 0 | | | 1 | | | | 1 | | | | | | |
| | | | | | 06 | | | | | | | | | | | | | | | | | | | | | | | | | 0 | | | 1 | | | | 1 | | | | | | |
| | | | | | 12 | | | | | | | | | | | | | | | | | | | | | | | | | 0 | | | 1 | | | | 1 | | | | | | |
| 17 | 2 | 6 | 004 | 045 | 18 | 7 | 09 | 10 | 99 | 02 | 2 | 1015.9 | 10 | 162 | 24 | 24.2 | 21.7 | 7 | 8 | 4 | 0 | 0 | 4 | 3 | 0 | 02 | 21.7 | 2.5 | 20 | 0 | 05 | 20 | 1 | 09 | 2 | 3 | 1 | | | | | | |
| 17 | 2 | 6 | 009 | 045 | 23 00 | 3 | 08 | 11 | 96 | 02 | 1 | 1012.2 | 10 | 126 | 22 | 22.0 | 20.8 | 3 | 1 | 4 | 0 | 0 | 4 | 3 | 6 | 27 | 21.8 | 0.2 | 21 | 0 | 00 | 21 | 1 | 08 | 2 | 1 | 1 | 14 | 3 | 4 | | | |
| 18 | 3 | 6 | 017 | 046 | 06 | 1 | 13 | 05 | 98 | 02 | 0 | 1015.1 | 10 | 155 | 22 | 21.9 | 20.7 | 1 | 1 | 4 | 0 | 0 | 4 | 3 | 1 | 07 | 22.1 | -0.2 | 20 | 0 | 00 | 20 | 1 | 14 | 2 | 3 | | | | | | | |
| 18 | 3 | 6 | 024 | 045 | 12 | 1 | 10 | 12 | 98 | 02 | 0 | 1013.2 | 10 | 136 | 22 | 22.0 | 20.3 | 1 | 1 | 4 | 0 | 0 | 4 | 3 | 3 | 03 | 22.2 | -0.2 | 19 | 0 | 00 | 19 | 1 | 10 | 2 | 3 | | | | | | | |
| 18 | 3 | 6 | 033 | 045 | 18 | 1 | 11 | 12 | 98 | 02 | 0 | 1015.4 | 10 | 158 | 22 | 22.3 | 20.7 | 1 | 1 | 4 | 0 | 0 | 4 | 3 | 0 | 02 | 22.7 | -0.4 | 20 | 0 | 51 | 20 | 1 | 11 | 2 | 3 | | | | | | | |
| 18 | 3 | 6 | 032 | 036 | 23 00 | 2 | 13 | 13 | 98 | 02 | 0 | 1012.5 | 10 | 129 | 24 | 23.8 | 21.8 | 2 | 2 | 4 | 0 | 0 | 2 | 4 | 6 | 14 | 23.0 | 0.8 | 21 | 0 | 02 | 21 | 1 | 13 | 2 | 3 | | | | | | | |
| 19 | 4 | 6 | 031 | 028 | 06 | 6 | 12 | 11 | 98 | 03 | 1 | 1015.3 | 10 | 157 | 23 | 22.8 | 21.2 | 6 | 8 | 4 | 0 | 0 | 2 | 3 | 1 | 12 | 23.2 | -0.4 | 20 | 0 | 51 | 20 | 1 | 12 | 2 | 2 | 1 | | | | | | |
| 19 | 4 | 6 | 030 | 019 | 12 | 8 | 13 | 14 | 98 | 25 | 8 | 1012.9 | 10 | 133 | 23 | 22.7 | 21.0 | 8 | 8 | 4 | | | 2 | 4 | 5 | 02 | 23.2 | -0.5 | 20 | 0 | 51 | 20 | 1 | 13 | 2 | 3 | 1 | | | | | | |
| 19 | 4 | 6 | 030 | 013 | 18 | 8 | 12 | 12 | 98 | 02 | 8 | 1015.0 | 10 | 154 | 24 | 23.8 | 21.8 | 8 | 8 | 4 | | | 2 | 3 | 0 | 00 | 23.1 | 0.7 | 21 | 0 | 01 | 21 | 1 | 12 | 2 | 3 | 1 | | | | | | |
| 19 | 4 | 6 | 029 | 005 | 23 00 | 7 | 13 | 13 | 98 | 15 | 2 | 1012.0 | 10 | 124 | 22 | 22.2 | 21.2 | 7 | 8 | 4 | 0 | 0 | 2 | 3 | 6 | 15 | 22.9 | -0.7 | 21 | 0 | 51 | 21 | 1 | 13 | 2 | 3 | 1 | | | | | | |
| 20 | 5 | 6 | 026 | 995 | 06 | 8 | 12 | 11 | 98 | 02 | 2 | 1015.4 | 10 | 158 | 22 | 22.3 | 20.6 | 8 | 8 | 4 | | | 2 | 3 | 2 | 14 | 22.4 | -0.1 | 20 | 0 | 00 | 20 | 1 | 13 | 2 | 3 | 1 | | | | | | |
| 20 | 5 | 6 | 026 | 996 | 12 | 7 | 13 | 16 | 98 | 02 | 8 | 1013.6 | 10 | 140 | 22 | 21.5 | 20.0 | 7 | 8 | 4 | 0 | 0 | 2 | 3 | 5 | 00 | 21.9 | -0.4 | 19 | 0 | 51 | 19 | 1 | 13 | 2 | 3 | 1 | | | | | | |
| 20 | 5 | 6 | 029 | 978 | 18 | 2 | 13 | 14 | 98 | 01 | 1 | 1015.0 | 10 | 154 | 23 | 21.5 | 20.5 | 2 | 2 | 4 | 0 | 0 | 2 | 3 | 8 | 03 | 21.7 | 0.8 | 20 | 0 | 02 | 20 | 1 | 13 | 2 | 3 | 1 | | | | | | |
| 20 | 5 | 6 | 029 | 976 | 23 00 | 3 | 15 | 12 | 98 | 02 | 0 | 1012.6 | 10 | 130 | 23 | 22.7 | 20.5 | 3 | 8 | 4 | 0 | 0 | 0 | 0 | 6 | 10 | 21.8 | 0.9 | 20 | 0 | 02 | 20 | 1 | 15 | 2 | 3 | 1 | | | | | | |
| 21 | 6 | 6 | 019 | 976 | 06 | 1 | 15 | 11 | 98 | 02 | 0 | 1014.8 | 10 | 152 | 21 | 21.1 | 20.0 | 1 | 1 | 4 | 0 | 0 | 1 | 3 | 2 | 03 | 21.1 | 0.0 | 20 | 0 | 00 | 20 | 1 | 15 | 3 | 4 | 1 | | | | | | |
| 21 | 6 | 6 | 015 | 975 | 12 | 1 | 16 | 09 | 98 | 02 | 0 | 1013.2 | 10 | 136 | 21 | 21.0 | 20.0 | 1 | 1 | 5 | 0 | 0 | 1 | 2 | 6 | 03 | 20.8 | 0.2 | 20 | 0 | 00 | 20 | 1 | 15 | 2 | 3 | 1 | | | | | | |
| 21 | 6 | 6 | 006 | 975 | 18 | 1 | 15 | 10 | 99 | 02 | 0 | 1015.0 | 10 | 154 | 22 | 22.4 | 20.4 | 1 | 1 | 5 | 0 | 0 | 8 | 3 | 8 | 08 | 20.7 | 1.7 | 19 | 0 | 03 | 19 | 1 | 15 | 3 | 4 | 1 | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 |
| — | Y | Q | L ₁ L ₂ L ₃ | L ₄ L ₅ L ₆ | GG | N | dd | ff | VV | ww | W | — | — | PPP | TT | — | — | N _b | C _L | h | C _M | C _H | D _S | vs | a | pp | — | — | — | 0 | T _S T _s | T _d T _d | 1 | d _w d _w | P _w | H _w | 1 | d _w d _w | P _w | H _w | — | — | |

SHIP'S WEATHER OBSERVATIONS

NAME OF VESSEL

- ☐ S/S
☐ M/V

CALL SIGN

MAILING ADDRESS (*American addresses preferred*)

CHECK FORMS OR SUPPLIES REQUIRED

- ☐ SHIP'S WEATHER OBSERVATIONS, WB FORM 615-5
☐ METEOROLOGICAL RADIOTELEGRAM, WB FORM 630-9
☐ BAROGRAM, WB FORM 455-12

WEATHER MAP BASES

- ☐ N. ATLANTIC - U.S. INTERCOASTAL
☐ N. PACIFIC - U.S. INTERCOASTAL
☐ S. ATLANTIC - U.S. INTERCOASTAL
☐ S. PACIFIC - INDIAN OCEAN
☐ WEATHER SERVICE FOR MERCHANT SHIPPING
☐ ENVELOPES

INSTRUMENTS IN NEED OF SERVICE

- ☐ BAROMETER ☐ BAROGRAPH ☐ PSYCHROMETER

DO NOT WRITE BELOW

RECEIVED (*Weather Bureau Office*)

ACTION TAKEN (*Check one*)

- ☐ SUPPLIES FURNISHED AS MARKED X ☐ ACKNOWLEDGED
☐ ALL ACTION REFERRED TO CENTRAL OFFICE

DATE ACTION TAKEN

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|-------------|-----------------------|--|--|--|--------------------------------------|---------------------------------|--|-----------------------------------|--------------------------------|--------------------------|---|---|------------------------|--------------------------|-----------------------------|---|---------------------|------------------------------|---------------------|------------------------------|------------------------------|-------------------------|------------------------|-------------------------|--------------------------------------|--------------------------|------------------------|--|--|--|-------------------------------|-----|-------------------------------|----------------|----------------|---|-------------------------------|----------------|----------------|--|--------|--------|
| NAME OF VESSEL S/S M/V | | | | | NAME OF CAPTAIN | | | | | | | WB FORM 615-5 (1-64) | | | | | U.S. DEPARTMENT OF COMMERCE WEATHER BUREAU | | | | | INSTRUCTIONS | | | | | | | | | | | | | | | | | | | | | |
| COUNTRY OF REGISTRY | | | | | CALL SIGN | | | | | V O Y A G E | FROM | | | | | SHIP'S WEATHER OBSERVATIONS | | | | | | | | | | | | | | | 1. Begin a new sheet: a. For the first observation of a new month. b. At the beginning of each voyage. c. Upon sailing from one ocean to another. d. Upon sailing from one ocean to another. 2. Fill in the blanks on each page of the form. (Name of vessel, barometer number, etc.) 3. Enter the coded synoptic (0000, 0600, 1200, 1800 G.C.T.) or special weather observations in columns 1 through 44. Code the message in accordance with the "International Weather Code for Ships." 4. At end of each voyage, remove all forms with completed observations and mail in the postage-free envelopes provided. 5. Radio transmission—Copy coded data for radio transmission from the unshaded numbered groups of columns. Each code group consists of five figures with a slant (/) indicating missing data. Omit code group 8 and 9 in message if no data are available. | | | | | | | | | | | | |
| MONTH | | | | | BAROMETER NO. | | | | | | TO | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Check (✓) TEMPERATURES (COLS. 16-18, 28-30, 32-33): | | |
| DAY OF MONTH (G.C.T.) | DAY OF WEEK | POSITION OF SHIP | | | TIME (Nearest hour 00-23) (G.C.T.) | TOTAL CLOUD AMT. (Coded) (0-9) | WIND | | VISI-BILITY (Coded) (90-99) | WEATHER | | PRESSURE | | AIR TEMP. (Rounded) | TEMPERA-TURE | | CLOUDS (Coded) | | | | | 3-HOUR PRESSURE TENDENCY | | TEMPERATURE | | | DIFF. AIR-SEA (Coded) | DEW POINT (Rounded) | WAVES (Make 2 entries if 2nd pattern observed) | | | | | | | | REMARKS (Enter time of wind shifts, frontal passages, beginning and ending of precipitation, coded ice data, waves over 30½ ft., etc.) | CHECK (✓) IF SENT BY RADIO | INITIALS | | | | |
| | | OCT-ANT (0-3, 5-8) | LATITUDE (Degrees and tenths) | LONGI-TUDE | | | DI-RECTION (True) (00-36) | SPEED (True knots) EST. MEAS ☐ | | PRES-ENT (Coded) (00-99) | PAST (Coded) (0-9) | CORREC-TION +0.4 BAROME-TER AS READ (in., mb., or mm.) | DATE COMPARED 6-5-67 BAROMETER CORRECTED (mb.) | | CODED Sea Level (mb.) | DRY BULB | WET BULB | AMOUNT OF LOW CLOUD | TYPE C _L (0-9) | HEIGHT OF LOW CLOUD | TYPE C _M (0-9) | TYPE C _H (0-9) | COURSE OF SHIP (0-9) | SPEED OF SHIP (0-9) | CHARACTERISTIC (0-9) | AMOUNT OF CHANGE (mb. and tenths) | | | SEA WATER (Degrees and tenths) | DIFF. AIR-SEA (-if air colder than sea) | DEW POINT (Whole degrees) | INDICATOR | SEA | DIRECTION | PERIOD | HEIGHT | | | | INDICATOR | DIRECTION | PERIOD | HEIGHT |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 |
| — | Y | Q | L ₀ L ₁ L ₂ | L ₀ L ₁ L ₂ | GG | N | dd | ff | VV | ww | W | — | — | PPP | TT | — | — | N _b | C _L | h | C _M | C _H | D _s | V _s | a | pp | — | — | — | 0 | T _s T _s | T _d T _d | 1 | d _w d _w | P _w | H _w | 1 | d _w d _w | P _w | H _w | — | — | — |
| 21 | 6 | 1 | 000 | 975 | 2300 | 3 | 16 | 11 | 98 | 02 | 0 | 1012.8 | 10 | 132 | 21 | 21.4 | 19.9 | 2 | 5 | 5 | 0 | 1 | 8 | 3 | 5 | 0 | 9 | 21.0 | 0.4 | 19 | 0 | 01 | 19 | 1 | 15 | 3 | 4 | 1 | | | | | |
| 22 | 7 | 1 | 007 | 975 | 06 | 6 | 15 | 14 | 98 | 15 | 1 | 1014.5 | 10 | 149 | 21 | 20.6 | 19.8 | 6 | 2 | 4 | 0 | 0 | 8 | 3 | 8 | 0 | 3 | 20.8 | -0.2 | 20 | 0 | 00 | 20 | 1 | 15 | 2 | 3 | 1 | | | | | |
| 22 | 7 | 1 | 012 | 975 | 12 | 7 | 14 | 10 | 98 | 02 | 1 | 1012.8 | 10 | 132 | 22 | 21.6 | 19.6 | 7 | 8 | 4 | 0 | 0 | 8 | 3 | 4 | 00 | 22.5 | -0.9 | 19 | 0 | 52 | 19 | 1 | 15 | 2 | 3 | 1 | | | | | | |
| 22 | 7 | 1 | 021 | 975 | 18 | 7 | 15 | 12 | 98 | 02 | 2 | 1014.6 | 10 | 150 | 24 | 23.5 | 21.4 | 7 | 8 | 4 | 0 | 0 | 8 | 3 | 8 | 0 | 3 | 23.8 | -0.3 | 21 | 0 | 51 | 21 | 1 | 15 | 2 | 3 | 1 | | | | | |
| 22 | 7 | 1 | 031 | 975 | 2300 | 7 | 16 | 10 | 98 | 02 | 2 | 1011.7 | 10 | 121 | 23 | 23.0 | 20.0 | 7 | 8 | 4 | 0 | 0 | 8 | 3 | 6 | 13 | 23.9 | -0.8 | 19 | 0 | 52 | 19 | 1 | 16 | 2 | 3 | 1 | | | | | | |
| 23 | 1 | 1 | 038 | 975 | 06 | 7 | 15 | 07 | 98 | 02 | 2 | 1014.2 | 10 | 146 | 24 | 23.5 | 19.8 | 7 | 8 | 5 | 0 | 0 | 8 | 3 | 1 | 05 | 25.5 | -2.0 | 18 | 0 | 54 | 18 | 1 | 16 | 2 | 2 | 1 | | | | | | |
| 23 | 1 | 1 | 043 | 975 | 12 | 6 | 16 | 09 | 98 | 02 | 2 | 1011.6 | 10 | 120 | 24 | 24.0 | 20.6 | 6 | 5</ | | | | | | | | | | | | | | | | | | | | | | | | |

SHIP'S WEATHER OBSERVATIONS

NAME OF VESSEL

- ☐ S/S
☐ M/V

CALL SIGN

MAILING ADDRESS (*American addresses preferred*)

CHECK FORMS OR SUPPLIES REQUIRED

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☐ METEOROLOGICAL RADIOTELEGRAM, WB FORM 630-9
☐ BAROGRAM, WB FORM 455-12

WEATHER MAP BASES

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☐ WEATHER SERVICE FOR MERCHANT SHIPPING
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INSTRUMENTS IN NEED OF SERVICE

- ☐ BAROMETER ☐ BAROGRAPH ☐ PSYCHROMETER

DO NOT WRITE BELOW

RECEIVED (*Weather Bureau Office*)

ACTION TAKEN (*Check one*)

- ☐ SUPPLIES FURNISHED AS MARKED X ☐ ACKNOWLEDGED
☐ ALL ACTION REFERRED TO CENTRAL OFFICE

DATE ACTION TAKEN

NAME OF VESSEL

☐ S/S
☐ M/V

COUNTRY OF REGISTRY

MONTH
July 19*67*

NAME OF CAPTAIN

FROM

TO

WB FORM 615-5
(1-64)

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

SHIP'S WEATHER OBSERVATIONS

Check (✓)
TEMPERATURES (COLS. 16-18, 28-30, 32-33):
☒ °C ☐ °F

- INSTRUCTIONS
1. Begin a new sheet:
a. For the first observation of a new month.
b. At the beginning of each voyage.
c. Upon sailing from one octant to another.
d. Upon sailing from one ocean to another.

2. Fill in the blanks on each page of the form. (Name of vessel, barometer number, etc.)

3. Enter the coded synoptic (0000, 0600, 1200, 1800 G.C.T.) or special weather observations in columns 1 through 44.

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4. At end of each voyage, remove all forms with completed observations and mail in the postage-free envelopes provided.

5. Radio transmission—Copy coded data for radio transmission from the unshaded numbered groups of columns. Each code group consists of five figures with a slant (/) indicating missing data. Omit code group 8 and 9 in message if no data are available.

| DAY OF MONTH (G.C.T.) | DAY OF WEEK | POSITION OF SHIP | | | TIME (Nearest hour 00-23) (G.C.T.) | TOTAL CLOUD AMT. (Coded) (0-9) | WIND | | VISIBILITY (Coded) (90-99) | WEATHER | | PRESSURE | | AIR TEMP. (Rounded) | TEMPERATURE | | CLOUDS (Coded) | | | | | 3-HOUR PRESSURE TENDENCY | | TEMPERATURE | | | DIFF. AIR-SEA (Coded) | DEW POINT (Rounded) | WAVES (Make 2 entries if 2nd pattern observed) | | | | REMARKS (Enter time of wind shifts, frontal passages, beginning and ending of precipitation, coded ice data, waves over 30 1/2 ft., etc.) | CHECK (✓) IF SENT BY RADIO | INITIALS | | | | | | | | | |
|--------------------------|-------------|------------------------|--|--|--|--------------------------------------|----------------------------------|--|----------------------------------|--------------------------------|--------------------------|--|----------------------------------|------------------------|----------------------------------|---------------------|------------------------------|---------------------|------------------------------|------------------------------|-------------------------|--------------------------|-------------------------|--------------------------------------|-----------------------------------|---|--------------------------|------------------------|--|---------------------------------|-------------------------------|-------------------------------|--|-------------------------------|----------------|-------------------|-----|-------------------------------|----------------|----------------|----|----|----|--|
| | | OCT. ANT (0-3, 5-8) | LATITUDE (Degrees and tenths) | LONGITUDE (Degrees and tenths) | | | DI-REC-TION (True) (00-36) | SPEED (True-knots) EST. <input type="checkbox"/> MEAS <input type="checkbox"/> | | PRES-ENT (Coded) (00-99) | PAST (Coded) (0-9) | CORREC-TION 10.4 DATE COMPARED 6-8-67 BAROMETER AS READ 10.4 BAROMETER CORRECTED 6.8-67 CODED Sea Level (mb.) | DRY BULB (Degrees and tenths) | | WET BULB (Degrees and tenths) | AMOUNT OF LOW CLOUD | TYPE C _L (0-9) | HEIGHT OF LOW CLOUD | TYPE C _M (0-9) | TYPE C _H (0-9) | COURSE OF SHIP (1-9) | SPEED OF SHIP (0-9) | CHARACTERISTIC (0-9) | AMOUNT OF CHANGE (mb. and tenths) | SEA WATER (Degrees and tenths) | DIFF. AIR-SEA (-if air colder than sea) (Whole degrees) | | | DEW POINT (Whole degrees) | INDICATOR (00-36) (Coded) | DIRECTION (Coded) | PERIOD (Coded) | | | | HEIGHT (Coded) | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | SEA | SWELL | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | |
| — | Y | Q | L ₀ L ₁ L ₂ | L ₀ L ₁ L ₂ | GG | N | dd | ff | VV | ww | W | — | — | PPP | TT | — | — | N _b | C _L | h | C _M | C _H | D _S | vs | a | pp | — | — | — | 0 | T _S T _S | T _d T _d | 1 | d _w d _w | P _w | H _w | 1 | d _w d _w | P _w | H _w | — | — | — | |
| 31 | 2 | 1 | 257 | 132 | 23 00 | 3 | 27 | 12 | 98 | 02 | 0 | 1014.0 | 10 | 14.0 | 22 | 20.2 | 1 | 9 | 5 | 4 | 6 | 7 | 4 | 7 | 16 | 22.2 | -0.2 | 19 | 0 | 00 | 19 | 1 | 27 | 2 | 2 | 1 | | | | | | | | |
| 1 | 3 | 1 | 264 | 138 | 06 | 0 | 27 | 12 | 98 | 02 | 0 | 1015.4 | 10 | 15.4 | 18 | 18.2 | 0 | 6 | 9 | 5 | 0 | 7 | 4 | 1 | 10 | 17.4 | 0.8 | 17 | 0 | 02 | 17 | 1 | 27 | 2 | 2 | 1 | | | | | | | | |
| 1 | 3 | 1 | 273 | 147 | 12 | 0 | 27 | 06 | 98 | 02 | 0 | 1015.3 | 10 | 15.3 | 19 | 19.0 | 0 | 0 | 9 | 5 | 0 | 7 | 4 | 3 | 03 | 18.9 | 0.1 | 18 | 0 | 00 | 18 | 1 | 27 | 2 | 1 | 1 | | | | | | | | |
| 1 | 3 | 1 | 280 | 151 | 18 | 9 | 15 | 08 | 97 | 03 | 1 | 1012.8 | 10 | 12.8 | 20 | 14.6 | 8 | 5 | 4 | 7 | 7 | 4 | 2 | 10 | 19.9 | -0.3 | 17 | 0 | 51 | 17 | 1 | 00 | / | 0 | 1 | 27 | 2 | 1 | | | | | | |
| 1 | 3 | 1 | 288 | 154 | 23 00 | 4 | 28 | 08 | 98 | 02 | 1 | 1013.2 | 10 | 13.2 | 20 | 14.8 | 8 | 5 | 4 | 5 | 5 | 7 | 4 | 8 | 13 | 19.8 | 0.0 | 18 | 0 | 00 | 08 | 1 | 29 | 2 | 1 | 1 | | | | | | | | |
| 2 | 4 | 1 | 298 | 159 | 06 | 3 | 32 | 09 | 99 | 02 | 0 | 1016.1 | 10 | 16.1 | 18 | 18.1 | 6 | 5 | 4 | 0 | 8 | 4 | 0 | 17 | 19.5 | -1.4 | 16 | 0 | 53 | 16 | 1 | 31 | 2 | 1 | 1 | | | | | | | | | |
| 2 | 4 | 1 | 309 | 164 | 12 | 8 | 37 | 09 | 98 | 03 | 1 | 1015.6 | 10 | 15.6 | 17 | 17.2 | 8 | 5 | 4 | 1 | 8 | 4 | 6 | 08 | 19.0 | -1.8 | 15 | 0 | 54 | 15 | 1 | 32 | 2 | 1 | 1 | | | | | | | | | |
| 2 | 4 | 1 | 317 | 168 | 18 | 8 | 30 | 07 | 98 | 02 | 2 | 1015.0 | 10 | 15.0 | 20 | 18.7 | 8 | 5 | 4 | 7 | 8 | 4 | 4 | 00 | 20.6 | -0.3 | 18 | 0 | 51 | 18 | 1 | 30 | 2 | 1 | 1 | | | | | | | | | |
| 2 | 5 | 1 | | | 00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 06 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | | | | | 06 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | | | | | 18 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | |
| — | Y | Q | L ₀ L ₁ L ₂ | L ₀ L ₁ L ₂ | GG | N | dd | ff | VV | ww | W | — | — | PPP | TT | — | — | N _b | C _L | h | C _M | C _H | D _S | vs | a | pp | — | — | — | 0 | T _S T _S | T _d T _d | 1 | d _w d _w | P _w | H _w | 1 | d _w d _w | P _w | H _w | — | — | — | |

SHIP'S WEATHER OBSERVATIONS

NAME OF VESSEL

- ☐ S/S
☐ M/V

CALL SIGN

MAILING ADDRESS (*American addresses preferred*)

CHECK FORMS OR SUPPLIES REQUIRED

- ☐ SHIP'S WEATHER OBSERVATIONS, WB FORM 615-5
☐ METEOROLOGICAL RADIOTELEGRAM, WB FORM 630-9
☐ BAROGRAM, WB FORM 455-12

WEATHER MAP BASES

- ☐ N. ATLANTIC - U.S. INTERCOASTAL
☐ N. PACIFIC - U.S. INTERCOASTAL
☐ S. ATLANTIC - U.S. INTERCOASTAL
☐ S. PACIFIC - INDIAN OCEAN
☐ WEATHER SERVICE FOR MERCHANT SHIPPING
☐ ENVELOPES

INSTRUMENTS IN NEED OF SERVICE

- ☐ BAROMETER ☐ BAROGRAPH ☐ PSYCHROMETER

DO NOT WRITE BELOW

RECEIVED (*Weather Bureau Office*)

ACTION TAKEN (*Check one*)

- ☐ SUPPLIES FURNISHED AS MARKED X ☐ ACKNOWLEDGED
☐ ALL ACTION REFERRED TO CENTRAL OFFICE

DATE ACTION TAKEN

| | | | | | | | |
|--|--|-----------------------|--|-------------------------|--|--|--|
| NAME OF VESSEL <div><input type="checkbox"/> S/S <input type="checkbox"/> M/V</div> | | NAME OF CAPTAIN | | WB FORM 615-5 (1-64) | | U.S. DEPARTMENT OF COMMERCE WEATHER BUREAU | |
| COUNTRY OF REGISTRY | | CALL SIGN | | FROM | | SHIP'S WEATHER OBSERVATIONS | |
| MONTH July 1967 | | BAROMETER NO. 2114 | | TO | | Check (✓) TEMPERATURES (COLS. 16-18, 28-30, 32-33): <input checked="" type="checkbox"/> °C <input type="checkbox"/> °F | |

- INSTRUCTIONS**
- Begin a new sheet:
 - For the first observation of a new month.
 - At the beginning of each voyage.
 - Upon sailing from one ocean to another.
 - Upon sailing from one ocean to another.
 - Fill in the blanks on each page of the form. (Name of vessel, barometer number, etc.)
 - Enter the coded synoptic (0000, 0600, 1200, 1800 G.C.T.) or special weather observations in columns 1 through 44.
- Code the message in accordance with the "International Weather Code for Ships."
- At end of each voyage, remove all forms with completed observations and mail in the postage-free envelopes provided.
 - Radio transmission**—Copy coded data for radio transmission from the unshaded numbered groups of columns. Each code group consists of five figures with a slant (/) indicating missing data. Omit code group 8 and 9 in message if no data are available.

| DAY OF MONTH (G.C.T.) | DAY OF WEEK (0-3, 5-8) | POSITION OF SHIP | | TIME (Nearest hour 00-23) (G.C.T.) | TOTAL CLOUD AMT. (Coded) (0-9) | WIND | | VISI-BILITY (Coded) (90-99) | WEATHER | | PRESSURE | | AIR TEMP. (Rounded) | TEMPERA-TURE | | CLOUDS (Coded) | | | | 3-HOUR PRESSURE TENDENCY (0-9) | TEMPERATURE | | | DIFF. AIR-SEA (Coded) | DEW POINT (Rounded) | WAVES (Make 2 entries if 2nd pattern observed) | | | | REMARKS (Enter time of wind shifts, frontal passages, beginning and ending of precipitation, coded ice data, waves over 30½ ft., etc.) | CHECK (✓) IF SENT BY RADIO | INITIALS | | | | | | | | | | | |
|--------------------------|---------------------------|------------------------|--|--|--------------------------------------|----------------------------------|---|-----------------------------------|--------------------------------|--------------------------|--|----------------------------------|------------------------|----------------------------------|---------------------|------------------------------|------------------------------|------------------------------|-------------------------|-----------------------------------|------------------------|-------------------------|--------------------------------------|--------------------------|------------------------|--|--|------------------------------|-----------|---|-------------------------------|-------------------------------|---------------------------|-------------------------------|-------------------|----------------|---------------------------|-------------------------------|-------------------|----------------|----|----|----|
| | | OCT-A NT (0-3, 5-8) | LONGI-TUDE (Degrees and tenths) | | | DI-REC-TION (True) (00-36) | SPEED (True knots) EST. MEAS. (0-9) | | PRES-ENT (Coded) (00-99) | PAST (Coded) (0-9) | CORREC-TION 10.4 DATE COMPARED 6-8-67 BAROMETER AS READ (in., mb., or mm.) (mb.) BAROMETER CORRECTED (mb.) CODED Sea Level (mb.) | DRY BULB (Degrees and tenths) | | WET BULB (Degrees and tenths) | AMOUNT OF LOW CLOUD | TYPE C _L (0-5) | HEIGHT OF LOW CLOUD (0-9) | TYPE C _H (0-9) | COURSE OF SHIP (0-9) | | SPEED OF SHIP (0-9) | CHARACTERISTIC (0-9) | AMOUNT OF CHANGE (mb. and tenths) | | | SEA WATER (Degrees and tenths) | DIFF. AIR-SEA (-if air colder than sea) | DEW POINT (Whole degrees) | INDICATOR | | | | SEA (00-36) (Coded) | PERIOD (Coded) | HEIGHT (Coded) | INDICATOR | SEA (00-36) (Coded) | PERIOD (Coded) | HEIGHT (Coded) | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 |
| — | Y | Q | L ₁ L ₂ L ₃ | L ₄ L ₅ L ₆ | GG | N | dd | ff | VV | ww | W | — | — | PPP | TT | — | — | N _b | C _L | h | C _M | C _H | D _S | vs | a | pp | — | — | — | 0 | T _S T _S | T _d T _d | 1 | d _w d _w | P _w | H _w | 1 | d _w d _w | P _w | H _w | — | — | — |
| 26 | 4 | 1 | 138 | 975 | 23-00 | 3 | 09 | 08 | 98 | 02 | 0 | 1009.8 | 10 | 102 | 29 | 29.2 | 26.4 | 1 | 1 | 5 | 0 | 6 | 8 | 3 | 7 | 12 | 29.2 | 0.0 | 26 | 0 | 00 | 26 | 1 | 07 | 2 | 2 | 1 | | | | | | |
| 27 | 5 | 1 | 147 | 975 | 06 | 1 | 34 | 06 | 98 | 02 | 0 | 1012.16 | 10 | 130 | 29 | 29.0 | 27.0 | 1 | 1 | 5 | 0 | 0 | 8 | 3 | 1 | 14 | 29.6 | -0.6 | 26 | 0 | 51 | 26 | 1 | 01 | 2 | 1 | 1 | | | | | | |
| 27 | 5 | 1 | 154 | 975 | 12 | 1 | 30 | 12 | 98 | 02 | 0 | 1010.3 | 10 | 107 | 29 | 28.5 | 27.0 | 1 | 1 | 5 | 0 | 0 | 8 | 3 | 4 | 00 | 29.1 | -0.6 | 27 | 0 | 51 | 27 | 1 | 32 | 2 | 2 | 1 | | | | | | |
| 27 | 5 | 1 | 159 | 980 | 18 | 3 | 26 | 05 | 98 | 02 | 0 | 1011.4 | 10 | 118 | 30 | 30.2 | 27.0 | 1 | 2 | 5 | 0 | 6 | 7 | 4 | 1 | 02 | 29.9 | 0.1 | 26 | 0 | 00 | 26 | 1 | 26 | 2 | 2 | 1 | | | | | | |
| 27 | 5 | 1 | 162 | 988 | 23-00 | 3 | 24 | 07 | 98 | 02 | 0 | 1010.0 | 10 | 101 | 31 | 31.0 | 26.2 | 1 | 3 | 5 | 0 | 5 | 7 | 4 | 7 | 10 | 30.8 | 0.2 | 24 | 0 | 00 | 24 | 1 | 26 | 2 | 1 | 1 | | | | | | |
| 28 | 6 | 1 | 167 | 999 | 06 | 1 | 10 | 04 | 98 | 13 | 0 | 1014.0 | 10 | 144 | 29 | 29.7 | 26.7 | 1 | 3 | 5 | 0 | 0 | 7 | 4 | 2 | 17 | 29.3 | 0.1 | 26 | 0 | 00 | 26 | 1 | 49 | 1 | 0 | 1 | | | | | | |
| 28 | 6 | 1 | 171 | 099 | 12 | 1 | 02 | 06 | 98 | 02 | 0 | 1010.5 | 10 | 109 | 28 | 28.2 | 26.0 | 1 | 1 | 5 | 0 | 0 | 7 | 4 | 6 | 08 | 29.5 | -1.3 | 25 | 0 | 53 | 25 | 1 | 49 | 1 | 1 | 1 | | | | | | |
| 28 | 6 | 1 | 176 | 020 | 18 | 2 | 19 | 04 | 98 | 02 | 0 | 1013.0 | 10 | 134 | 30 | 30.0 | 27.0 | 1 | 1 | 5 | 0 | 2 | 7 | 4 | 4 | 00 | 30.0 | 0.0 | 26 | 0 | 00 | 26 | 1 | 49 | 1 | 1 | 1 | | | | | | |
| 28 | 6 | 1 | 180 | 031 | 23-00 | 2 | 21 | 06 | 98 | 02 | 0 | 1015.2 | 10 | 106 | 30 | 29.7 | 27.0 | 1 | 9 | 5 | 0 | 2 | 7 | 4 | 7 | 20 | 30.0 | 0.3 | 26 | 0 | 51 | 26 | 1 | 49 | 1 | 2 | 1 | | | | | | |
| 29 | 7 | 1 | 186 | 040 | 06 | 1 | 31 | 03 | 98 | 02 | 0 | 1010.3 | 10 | 127 | 29 | 28.8 | 25.6 | 1 | 1 | 5 | 0 | 0 | 7 | 4 | 2 | 14 | 30.0 | -1.2 | 24 | 0 | 52 | 24 | 1 | 49 | 1 | 1 | 1 | | | | | | |
| 29 | 7 | 1 | 192 | 049 | 12 | 1 | 04 | 02 | 98 | 02 | 0 | 1012.7 | 10 | 126 | 28 | 27.8 | 26.0 | 1 | 1 | 5 | 0 | 0 | 7 | 4 | 3 | 07 | 29.6 | -1.8 | 25 | 0 | 54 | 25 | 1 | 49 | 1 | 1 | 1 | | | | | | |
| 29 | 7 | 1 | 198 | 058 | 18 | 5 | 14 | 09 | 98 | 03 | 1 | 1014.0 | 10 | 144 | 30 | 29.7 | 26.7 | 3 | 1 | 5 | 0 | 6 | 7 | 4 | 1 | 08 | 29.3 | 0.4 | 26 | 0 | 01 | 26 | 1 | 49 | 1 | 1 | 1 | | | | | | |
| 29 | 7 | 1 | 204 | 065 | 23-00 | 2 | 23 | 06 | 98 | 02 | 0 | 1011.1 | 10 | 115 | 29 | 29.3 | 27.3 | 1 | 1 | 5 | 0 | 5 | 7 | 4 | 7 | 17 | 29.7 | -0.4 | 27 | 0 | 51 | 27 | 1 | 25 | 2 | 1 | 1 | | | | | | |
| 30 | 1 | 1 | 211 | 075 | 06 | 1 | 26 | 07 | 98 | 13 | 0 | 1012.9 | 10 | 133 | 28 | 27.6 | 25.8 | 1 | 1 | 5 | 0 | 0 | 7 | 4 | 2 | 07 | 29.2 | -1.6 | 25 | 0 | 53 | 25 | 1 | 27 | 2 | 1 | 1 | | | | | | |
| 30 | 1 | 1 | 217 | 084 | 12 | 2 | 20 | 06 | 98 | 02 | 0 | 1011.7 | 10 | 121 | 27 | 26.5 | 24.7 | 1 | 1 | 5 | 0 | 5 | 7 | 4 | 5 | 04 | 28.5 | -2.0 | 24 | 0 | 54 | 24 | 1 | 20 | 2 | 1 | 1 | 27 | 2 | 2 | | | |
| 30 | 1 | 1 | 224 | 094 | 18 | 7 | 20 | 06 | 98 | 03 | 1 | 1013.7 | 10 | 141 | 25 | 24.8 | 23.3 | 7 | 8 | 5 | 0 | 0 | 7 | 4 | 0 | 02 | 26.4 | -1.6 | 23 | 0 | 53 | 23 | 1 | 20 | 2 | 1 | 1 | 30 | 3 | 3 | | | |
| 30 | 1 | 1 | 228 | 098 | 23-00 | 2 | 26 | 14 | 98 | 02 | 1 | 1011.0 | 10 | 114 | 25 | 24.5 | 23.0 | 1 | 1 | 5 | 3 | 0 | 6 | 4 | 7 | 22 | 26.1 | -1.6 | 22 | 0 | 53 | 22 | 1 | 27 | 2 | 2 | 1 | | | | | | |
| 31 | 2 | 1 | 236 | 108 | 06 | 1 | 27 | 06 | 98 | 02 | 0 | 1013.3 | 10 | 137 | 23 | 22.7 | 21.1 | 1 | 1 | 5 | 0 | 0 | 7 | 4 | 2 | 07 | 25.4 | -2.7 | 20 | 0 | 55 | 20 | 1 | 27 | 2 | 1 | 1 | | | | | | |
| 31 | 2 | 1 | 242 | 116 | 12 | 1 | 28 | 07 | 98 | 02 | 0 | 1012.6 | 10 | 130 | 22 | 21.5 | 20.5 | 1 | 5 | 6 | 0 | 0 | 7 | 4 | 5 | 00 | 25.1 | -3.9 | 20 | 0 | 58 | 20 | 1 | 27 | 2 | 1 | 1 | | | | | | |
| 31 | 2 | 1 | 249 | 125 | 18 | 3 | 27 | 08 | 99 | 02 | 0 | 1015.5 | 10 | 157 | 22 | 21.7 | 20.2 | 3 | 5 | 4 | 0 | 0 | 7 | 4 | 2 | 10 | 22.2 | -0.5 | 19 | 0 | 51 | 19 | 1 | 27 | 2 | 1 | 1 | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 |
| — | Y | Q | L ₁ L ₂ L ₃ | L ₄ L ₅ L ₆ | GG | N | dd | ff | VV | ww | W | — | — | PPP | TT | — | — | N _b | C _L | h | C _M | C _H | D _S | vs | a | pp | — | — | — | 0 | T _S T _S | T _d T _d | 1 | d _w d _w | P _w | H _w | 1 | d _w d _w | P _w | H _w | — | — | — |

SHIP'S WEATHER OBSERVATIONS

| | |
|--|-----------|
| NAME OF VESSEL <input type="checkbox"/> S/S <input type="checkbox"/> M/V | CALL SIGN |
|--|-----------|

MAILING ADDRESS (*American addresses preferred*)

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ACTION TAKEN (*Check one*)

☐ SUPPLIES FURNISHED AS MARKED X ☐ ACKNOWLEDGED
☐ ALL ACTION REFERRED TO CENTRAL OFFICE

DATE ACTION TAKEN
